

PMC-301L

SERVICE MANUAL

Ver 1.1 2001.05

AEP Model
UK Model



CD Section	Model Name Using Similar Mechanism	NEW
	Loading Mechanism Name	KSL-2103ABM
	CD Mechanism Type	KSM-2101ABM
Tape Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	MF-501-105

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wave length: 780 nm Emission duration: Continuous Laser output: Less than 44.6 μ W (This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.)
Spindle speed	200 r/min (rpm) to 500 r/min (rpm) (CLV)
Error correction	Sony Refined Super Strategy Cross Interleave Reed Solomon Code
Number of channels	2
Frequency response	20–20,000 Hz $\pm 1/-2$ dB
Wow and flutter	Below measurable limit

Radio section

Frequency range			
	FM	MW	LW
	87.6–107 MHz	531–1,602 kHz	153–279 kHz
IF	FM: 10.7 MHz MW/LW: 450 kHz		
Aerials	FM: 75 ohm unbalanced MW/LW: External aerial terminals		

Cassette-corder section

Recording system	4-track 2-channel stereo
Fast winding time	Approx. 120 s (sec.) with Sony cassette HF60

Frequency response	TYPE I (normal)	50–15,000 Hz
	TYPE II (CrO ₂)	50–16,000 Hz
	TYPE IV (metal)	50–18,000 Hz

General

Speaker	Fullrange: 10 cm (4 inches) dia., 4 ohms cone type (2)
Inputs	Mixing microphone input jack (minijack): Sensitivity 3.2 mV For low impedance microphone
Outputs	LINE IN jack: Sensitivity 436 mV
	Headphones jack (stereo minijack): For 16–64 ohms impedance headphones
	OPTICAL DIGITAL OUT (CD) jack: Wavelength 660 \pm 30 nm
Maximum power output	12.5 W + 12.5 W

—Continued on next page—

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Home Audio Company
Shinagawa Tec Service Manual Production Group

PERSONAL COMPONENT SYSTEM
SONY®

Power requirements	For CD radio cassette-corder:
UK model	240 V AC, 50 Hz
AEP model	220-230 V AC, 50 Hz
Power consumption	For remote commander: 3 V DC, 2 size AA (R6) batteries
Dimensions	AC 55 W Unit: 180 x 254 x 285 mm (w/h/d) (7 1/8 x 10 x 11 1/4 in.) Speaker: 150 x 254 x 229 mm (w/h/d) (6 x 10 x 9 1/4 in.) (incl. projecting parts and controls)
Mass	Approx. 12 kg (26 lb. 7 oz.)
Supplied accessories	Remote commander RMT-C301 (1) FM aerial (1) MW/LW loop aerial (1)

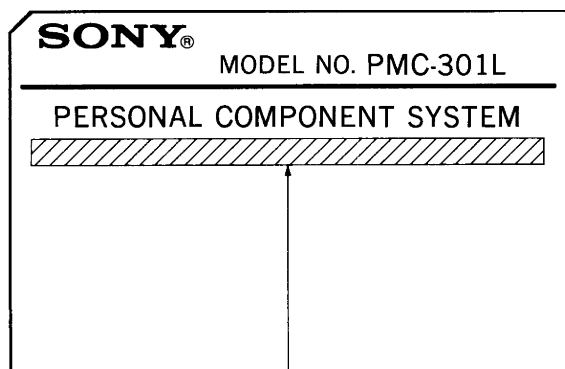
Design and specifications subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

MODEL IDENTIFICATION

—Model Number Label—



AEP model: AC: 220-230V~50Hz 55W
UK model: AC: 240V~50Hz 55W

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the changed electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

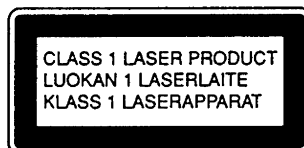
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25cm away from the objective lens.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

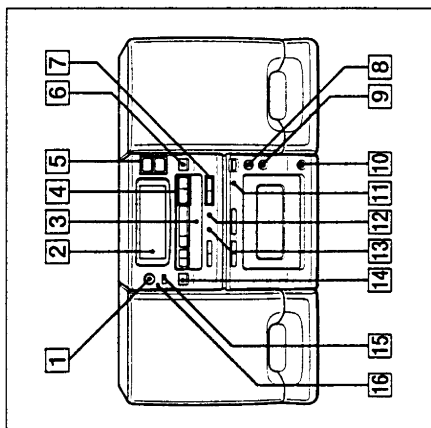
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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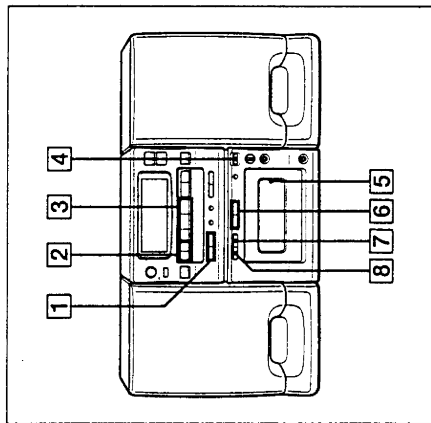
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CD Player and General



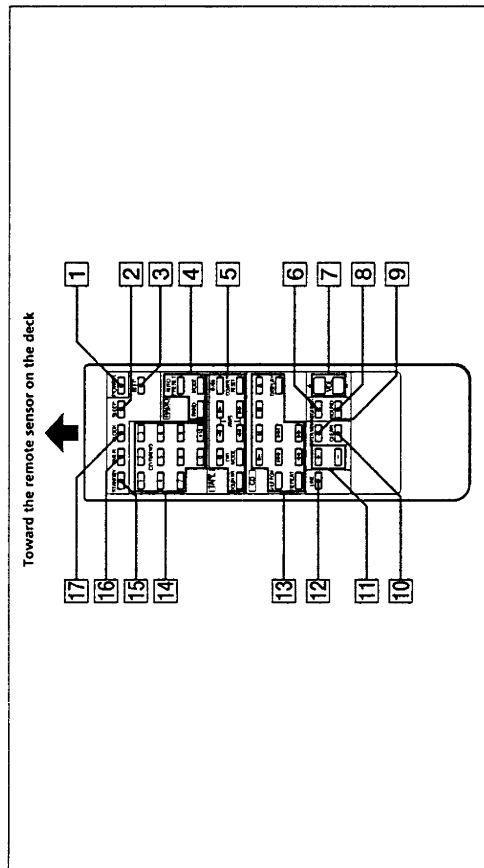
- 1 POWER switch
- 2 Display window
- 3 Disc tray
- 4 CD operation buttons
▶▶ (play/pause)
■ (stop)
- 5 VOLUME button
- 6 OPEN/CLOSE button (8-E)
- 7 PRESET/AMS/SEARCH ◀◀/▶▶ buttons (9, 16, 19, 20-E)
- 8 MIC LEVEL control (28-E)
- 9 MIX MIC (mixing microphone) jack (28-E)
- 10 HEADPHONES jack
- 11 KARAOKE button (29-E)
- 12 MEGA BASS button (7-E)
- 13 SOUND button (7-E)
- 14 LINE button (28, 30-E)
- 15 Remote sensor
- 16 POWER STANDBY indicator
Lights up to indicate whether the player is connected to the mains. The indicator lights regardless of whether the power is on or off.

Radio and Tape player



- 1 TUNING +/- buttons (14-E)
- 2 BAND button (PMC-301L) (14 - 16-E)
BAND/SW BAND button (PMC-301S) (14 - 16-E)
- 3 TAPE operation buttons
■ (stop)
◀◀/▶▶ (play)
- 4 EJECT button (17-E)
- 5 Cassette compartment
- 6 ◀◀/▶▶ button (17-E)
- 7 DUBBING HIGH SPEED button (20-E)
- 8 ●/|| (record/pause) button (19, 20, 22, 23, 28-E)

Remote commander

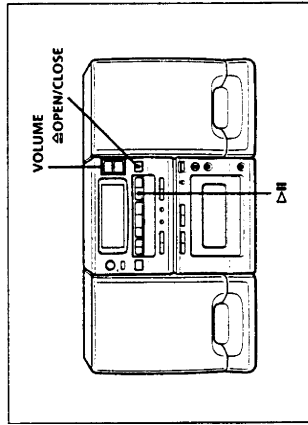


Controls on the remote commander with the same name as these on the deck have the same function. Some controls such as the number buttons are located only on the remote commander.

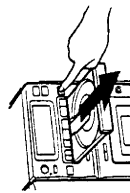
- 1 POWER switch
- 2 SLEEP button (24-E)
- 3 BEEP button
To sound the beep tone, press this button. The ♪ indication appears in the display window. When the operation is correct, a short beep sounds and when the operation is not correct, two long beeps sound.
- 4 RADIO operation buttons
AUTO PRESET
BAND
MODE button
- 5 TAPE operation buttons
■ (stop)
◀◀/▶▶ (play)
●/|| (record/pause)
DOLBY NR (B type Noise Reduction)
DIR MODE
◀◀/▶▶ (fast forward/rewind)/AMS
COUNTER RESET
- 6 MEGA BASS button (7-E)
- 7 VOL. (volume) button
- 8 SOUND button (7-E)
- 9 ENTER/MEM button (13, 15, 25 - 27-E)
- 10 CLEAR button (11, 15-E)
- 11 +/- buttons (6, 15, 25 - 27-E)
- 12 LINE button (28, 30-E)
- 13 CD operation buttons
▶▶ (play)
|| (pause)
■ (stop)
▲ (disc tray open/close)
SHUF/PGM
◀◀/▶▶ (AMS)
DISPLAY
REPEAT
◀◀/▶▶ (search)
- 14 Number buttons (9, 11, 12, 15, 16-E)
- 15 STANDBY button (25 - 27-E)
- 16 TIMER button (25 - 27-E)
- 17 CLOCK button (6-E)

Playing a CD (normal play)

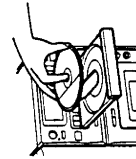
You can operate the player from the deck or with the supplied remote commander. Also, you can play 12 cm (5 inch) and 8 cm (3 inch) CDs without an adaptor.



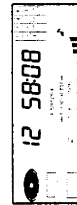
- 1 Press **OPEN/CLOSE** to open the disc tray.
The power is turned on (direct power-on).



- 2 Holding the CD by the edge, place the CD on the disc tray with the label side up.



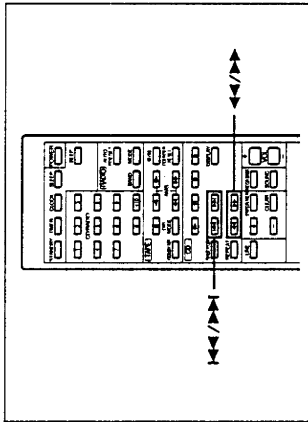
- 3 Press **OPEN/CLOSE**.
When a CD is in the disc tray, the **CD** indication appears in the display window.
The disc track numbers and the total playing time appear in the display window.



If the disc contains more than 16 tracks, the "OVER 16" indication appears in the display window.

Playing Specific Tracks

You can find the beginning of a track or a point in a track while the player is playing or paused. Find a particular track by specifying the track number.



To find the beginning of a track

To find	Press*
the beginning of the current track	Remote ⏮ once Deck AMS/SEARCH ⏮ once
the beginning of the previous tracks	Remote ⏮ repeatedly Deck AMS/SEARCH ⏮ repeatedly
the beginning of the next track	Remote ⏭ once Deck AMS/SEARCH ⏭ once
the beginning of the succeeding tracks	Remote ⏭ repeatedly Deck AMS/SEARCH ⏭ repeatedly

* If one of the following indications is displayed, press the **STOP** button in order the indication: REPEAT, REPEAT ALL, REPEAT SHUFFLE, SHUFFLE, PCM, REPEAT PCM.

To find a point in a track

Remote	Deck
In play mode, press ⏮ or ⏭ . Listen for the point you want to hear.	In play mode, keep pressing AMS/SEARCH ⏮ or ⏭ . Listen for the point you want to hear.
In pause mode, press ⏮ or ⏭ . Observe the display.	In pause mode, keep pressing AMS/SEARCH ⏮ or ⏭ . Observe the display.

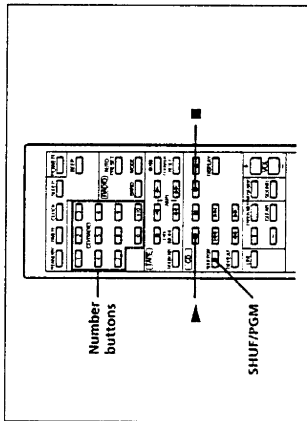
To listen to a specific track

Press the number on the remote commander for the track you want to hear. Play starts immediately. To play tracks with numbers equal to or greater than 10, press +10 first, then the number buttons 1 to 0. (See the examples below.)

Example To play from the 10th track	
Press	+10 → 0
Display	1 - 10
To play from the 23rd track	
Press	+10 → +10 → 3
Display	1 - 2 - 23

Playing Tracks in the Desired Order (programme play)

You can programme up to 20 tracks to play in any order you choose.

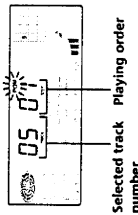


1 Press **■** (stop) on the CD section to display "CD".

2 Press SHUF/PGM until the "PGM" indication appears in the display window.



3 Press the number buttons for the tracks you want played in the order you want them played (e.g., 5, 1, 9). Up to 20 tracks can be programmed.



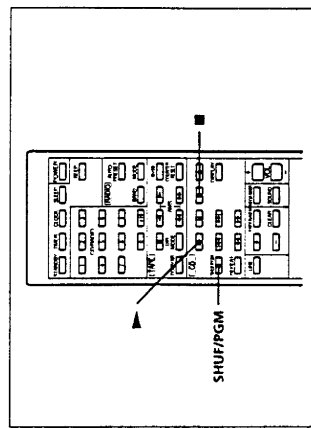
To check the total playing time while programming tracks
While you are programming the tracks, press DISPLAY. The total playing time of the programmed selections will be displayed.

If you make a mistake
Press CLEAR once and re-enter the track number.

4 Press **▶** (play).
The tracks play in the order programmed. The track numbers disappear as the selections are played. When the last track has played, all the programmed track numbers appear in the music calendar again.

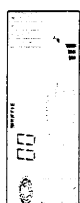
Playing Tracks in Random Order (shuffle play)

In shuffle play tracks play in mixed order. For example, instead of playing tracks 1, 2, 3 in order, they will play in any order such as 2, 1, 3.

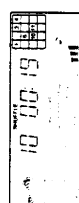


1 Press **■** (stop) on the CD section to display "CD".

2 Press SHUF/PGM until the "SHUFFLE" indication appears in the display window.



3 Press **▶** (play).
The tracks play in random order. When a track finishes, its track number disappears from the music calendar. When the all tracks have played once, the player is in the stop mode.

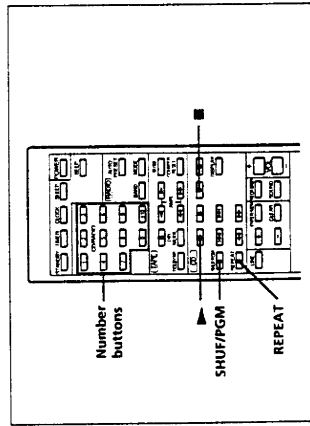


To	Press
Stop play	■ on the CD section
Canceled shuffle play	SHUF/PGM until no indication appears in the display

Notes
• You cannot display the remaining time on the CD during shuffle play.
• When you display "SHUFFLE" during normal play, shuffle play begins from the selection being played.

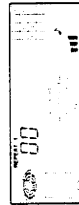
Playing Tracks Repeatedly

You can play tracks repeatedly in normal, shuffle or programme play modes. In shuffle play, the tracks play in a different order each time. Repeat only one track or all the tracks.



Repeating a single track

- 1 Press REPEAT until "REPEAT 1" appears in the display window.
- 2 Press the number of the track you would like repeated.



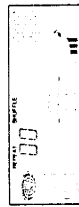
Repeating all the tracks

- 1 Press REPEAT until "REPEAT ALL" appears in the display window.
- 2 Press ► (play).
The player begins playing at the first track. When all the tracks have played once, the player starts playing from the first track again.



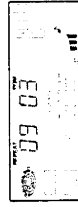
Repeating tracks in random order

- 1 Press SHUF/PGM until the "SHUFFLE" indication appears in the display window.
- 2 Press REPEAT.
- 3 Press ► (play).



Repeating programmed tracks

- 1 Press SHUF/PGM until the "PGM" indication appears in the display window.
- 2 Press the number buttons on the remote commander for the tracks you want played in the order you want them played.
- 3 Press REPEAT.
- 4 Press ► (play).
The same programme plays repeatedly.



To	Press
Stop play	■ on the CD section
Cancel repeat play	REPEAT until no indication appears in the display

Notes

- While playing tracks repeatedly, the remaining time of the CD cannot be displayed.
- You can also repeat tracks while playing a CD.

Checking and Changing Time and Track Order

Checking the order of programmed tracks

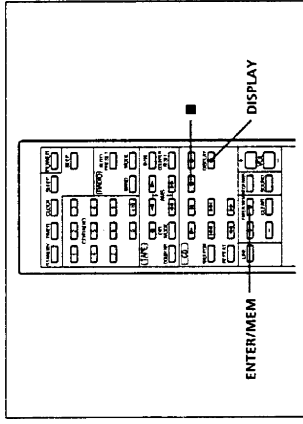
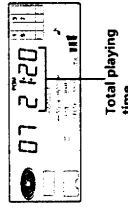
Before playing the CD, press ENTER/MEM on the remote commander. With each press, the selections appear in the programmed order.
If you press ENTER/MEM again at the last selection, you can continue to programme tracks after the last order.

Changing the order of programmed tracks

To change the order of the tracks, you must erase the current programme and create a new one. Press ■ (stop) once if the CD is stopped and twice if the CD is playing. The current programme will be erased.

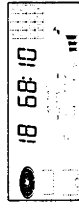
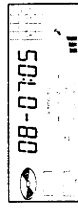
Checking the total playing time of the programmed tracks

Before playing the CD, press DISPLAY on the remote commander.
The total playing time appears.



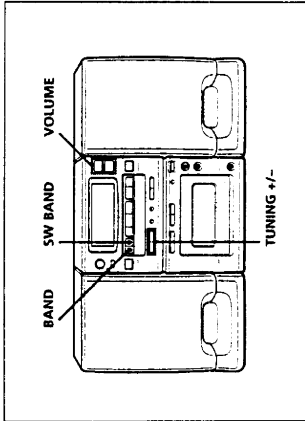
Checking the remaining time

- | To display | Press |
|--|----------------------|
| Remaining time on the current track | DISPLAY once |
| Remaining time on the CD and the number of tracks left | DISPLAY twice |
| Playing time and number of tracks | DISPLAY in stop mode |

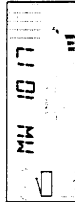


- If the disc has more than 16 tracks, the "OVER 16" indication appears in the display window.
And if the disc has 21 tracks or more, the remaining time appears as "----".

Whenever you want to listen to the radio, press the BAND button. To quickly find and play your favourite radio stations, store them using the station auto- or manual- preset function described in the next three sections.



- 1 Press BAND until the band you want appears. The power is turned on (direct power-on).



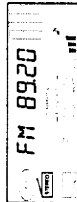
(PMC-301S only) To tune in an SW band: First press BAND to display "SW"; then SW BAND to display the sub-band you want. The band meter appears followed by the frequency (see Specifications).

- 2 Tune in a radio station either automatically or manually.

To tune automatically: Keep pressing TUNING +/-/. Release it when the frequency digits begin to change rapidly in the display. The player automatically scans the radio frequencies and stops when it finds a clear station.

To tune manually: Press TUNING +/- once at a time to tune in a station.

If the radio tunes to an FM stereo broadcast, the "STEREO" indication appears.



- 3 Press VOLUME to adjust the volume and select the audio emphasis (see Selecting the Audio Emphasis on page 7-E).

To	Press
Turn off the radio	POWER
Display sound type	MODE: Each time you press the MODE button the sound type changes: MONO → STEREO → MONO...
Reduce FM noise	MODE until "MONO" displays. Though the noise will be reduced, the radio will play in monaural.

To improve broadcast reception

FM: Connect an optional FM aerial (see page 4-E).
SW/MW/LW: Reorient the supplied SW/MW/LW loop aerial or connect an optional insulated wire (see page 5-E).

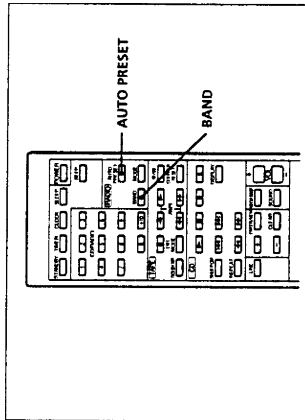
(PMC-301S* only) Changing the MW tuning interval

The MW tuning interval is preset to 9 kHz at the factory. If you need to change the interval:

- 1 Turn off the power and disconnect the mains lead.
 - 2 Wait until the time indications disappear from the display (approximately 2.5 hours).
 - 3 Change the position of the MW TUNING INTERVAL selector (at the rear of the player).
- After changing the MW tuning interval, reset the current time, preset radio stations and timer settings.
* excluding models for Germany and Italy

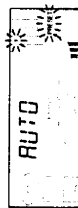
Presetting Radio Stations Automatically

You can preset radio frequencies with good reception automatically by pressing the AUTO PRESET button. You can preset up to 36 radio stations, 12 for each band and tune in your favourite stations at a touch of a button.



- 1 Press BAND until the band you want appears.

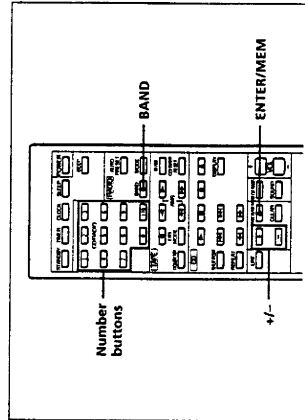
- 2 Depress and hold AUTO PRESET for about 2 seconds. The "AUTO" indication appears for 2 seconds and the "PRESET" indication blinks. Low to high frequency stations with good reception will be automatically preset in numerical sequence from the number 1.



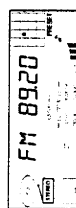
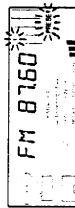
To add stations that cannot be preset automatically because their signal strength is too weak, follow steps 1-5 in Presetting Radio Stations Manually on this page.

Presetting Radio Stations Manually

You can store radio frequencies in the player's memory to tune in your favourite stations at a touch of a button. You can preset up to 36 radio stations in any order, 12 for each band.



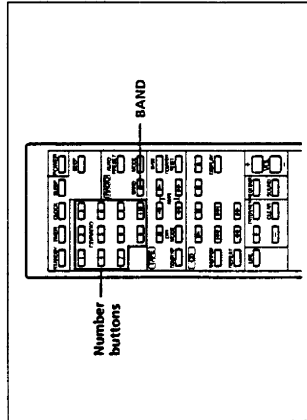
- 1 Press BAND until the band you want appears.
- 2 Depress and hold ENTER/MEM for about 2 seconds or more.
- 3 Tune in your favourite station by pressing +/-.
- 4 Decide on a preset number for the station with the number buttons.
If you make a mistake
Press CLEAR.
The last presetting is erased. Proceed from step 1.
- 5 Press ENTER/MEM. Your favourite station is stored in memory.



FM 89.20 has been stored on preset number 6.

Playing Preset Radio Stations

Once you have preset the stations, use the number buttons to tune in your favourite stations.



1 Press BAND until the band you want appears.

2 Select the desired preset number with the number buttons.
For numbers greater than 9 press +10 and another number.

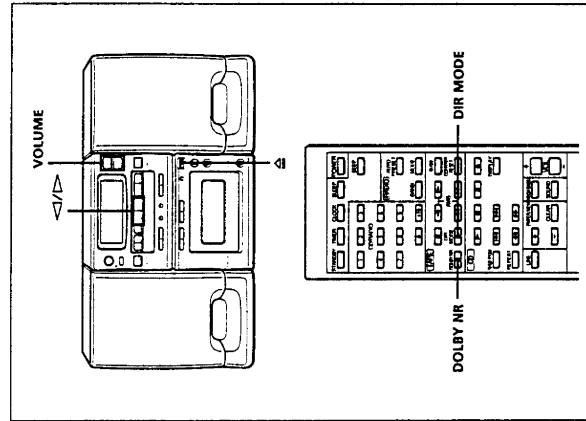
Selecting on the deck

Press BAND to select the band. Then, press PRESET<1>/>4 to select the desired preset number.

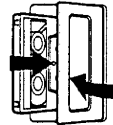
To erase a preset station

Storing a new station on a previously used preset number will erase the old station and replace it with the new one.

Playing a Tape



1 Press (eject) to open the tape compartment. Insert a recorded tape.

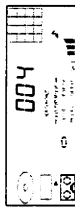


2 Press (to play the front side) or (to play the reverse side) to turn the power on (direct power-on) and start playing.

3 Press DIR MODE on the remote commander to choose the tape transport direction mode.

To play	Display shows
One side of the tape	—
Both sides of the tape from the front side to reverse side only*	⇒
Both sides of the tape repeatedly	⇄

* If play begins from the reverse side, the tape stops at the end of that side.



4 Adjust the volume and the audio emphasis (see *Selecting the Audio Emphasis* on page 7-E).

To	Press
Stop play	on the TAPE section
Fast forward*	on the TAPE section
Rewind*	on the TAPE section
Remove the cassette	
Turn off the power	POWER

* For the side facing forward.

Note
While winding, the or indication appears in the display window.

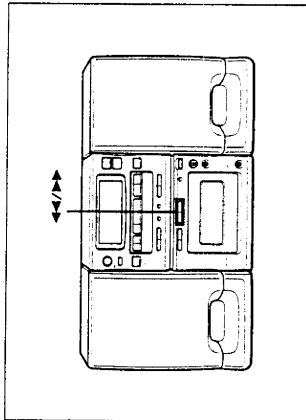
To listen to a tape recorded with the Dolby* B-type noise reduction system

Press DOLBY NR on the remote commander until the "DOLBY B NR" indication appears in the display window. Dolby noise reduction system reduces tape hiss noise in low-level high-frequency signals.
When you listen to a tape that wasn't recorded with DOLBY B NR, press DOLBY NR until the "DOLBY B NR" indication disappears.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Continued on next page

Finding the beginning of a song (AMS)

Using the AMS (Automatic Music Sensor) function you can quickly find the song you're looking for. The player senses where a track begins by detecting the pauses between the tracks.



While playing a tape, press ◀◀ or ▶▶.

To find	Front side	Reverse side
the beginning of the current track	▶▶	◀◀
the beginning of the next track	▶▶	◀◀

Notes

- If a soft sound like pianissimo continues for some seconds in a track, the AMS function may operate and start to play as the next track.
- If you press the ◀◀ or ▶▶ button when there is no sound in the track, the AMS function does not operate correctly.

Playing a Tape (continued)

To use the tape counter

- The display shows the tape counter while playing or recording a tape.
- The number of the tape counter moves conversely while playing or recording that before recording, write down the number of the tape counter or reset the tape counter with the COUNTER RESET button.

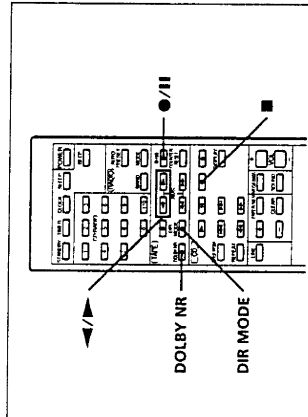
The tape is identified automatically (ATS* system)
When a cassette is inserted into the cassette compartment, the player automatically identifies the type of tape via the ATS system which "reads" the corresponding holes in the cassette.

* ATS: Automatic Tape Selector

Tape type	Playback	Recording
TYPE I (normal)	Can be used	Can be used
TYPE II (CrO ₂)	Can be used	Can be used
TYPE IV (metal)	Can be used	Can be used

Recording a CD Manually

You can record a CD as you like, for instance, by recording just the songs you want or record from the middle of the tape.



1 Insert a CD.

2 Insert a blank tape.

3 Press ■ (stop) on the CD section.

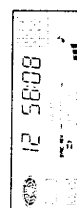
4 Press DIR MODE to choose the tape transportation mode.

To record	Display shows
One side of the tape	—
Synchronized reverse recording**	◀▶

Both sides of the tape from the front side to reverse side only

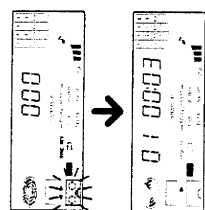
* Synchronized reverse recording is the function that if the tape on the front side reaches its end in the middle of a track while recording, recording on the reverse side starts from the beginning of the track.

** When pressing the ●/II (record/pause) button, the ◀▶ indication is changed to —.



5 When you want to record using the Dolby Noise Reduction system, press DOLBY NR. The "DOLBY B NR" indication appears in the display window.

6 While keep pressing ●/II (record/pause), press ◀ or ▶.
Recording starts after 8 seconds.



Note
Do not press any buttons that change the function (for example, the ■ (stop) button on the TAPE section) while recording. If the function changes from CD to any other function, recording will stop.

The recording level is adjusted automatically
Adjusting the volume or the audio emphasis will not affect the recording level.

To	Press
Stop recording	■ on the CD section
Pause during record	●/II

When the CD finishes while recording
The tape stops automatically (CD synchronized stop).

To start recoding on the deck

Press ◀/▶ within 8 seconds after pressing ●/II (record/pause).

To record from the desired track

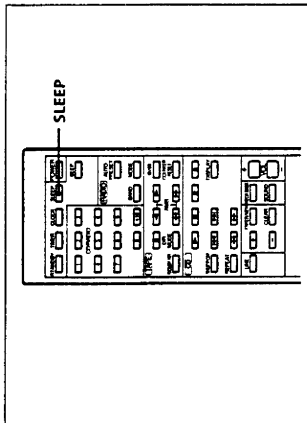
Select the desired track with the ◀◀/▶▶ button and start recording.

To record in PGM (programme) mode

- 1 Press ■ (stop) on the CD section.
- 2 Select PGM play (See *Playing Tracks in the Desired Order (programme play)* on page 11-E).
- 3 Press ◀ or ▶ within 8 seconds after pressing ●/II (record/pause).

Falling Asleep to Music

You can set the player to turn off automatically, so you can go to sleep to music.



- 1 Play the desired music source and adjust the volume.

To play	Press
a Tape	▶ (to play the front side) or ◀ (to play the reverse side)
the Radio	BAND and tune in a station
a CD	▶ on the CD section
Other music source	LINE

- 2 Press SLEEP.
The "SLEEP" indication appears in the display window.



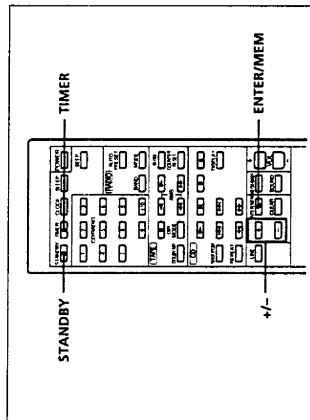
As the sleep timer starts, the display back light goes out. The player plays for 60 minutes, then shuts off automatically.

To cancel the sleep function
Press POWER.

About the volume of the sleep timer
Your personal component system has the fade out function. When the player shuts off, the setting volume fades out gradually.

Waking Up to Music

You can wake up to music at a preset time. Make sure the current time is correct. If it is not, reset it referring to the section *Setting the Clock* on page 6-E. Make sure the ⌚ (clock) indication is not lit in the display window.

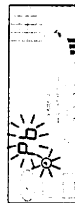


- 1 Prepare the desired sound source.

To play	Do this
a Tape	Insert a tape
the Radio	Tune in a station
a CD*	Place a CD on the disc tray
Other music source	Turn on the equipment connected to LINE IN (for details, see the instruction manual supplied to the equipment)

* You can play a CD in any play mode.

- 2 Press TIMER, the ⌚ (clock) and "Pb" (playback) or "REC" (record) indications blink. Select "Pb" by pressing +/-, then ENTER/MEM.



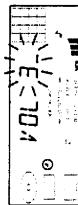
- 3 Select the music source ("CD", "RADIO", "TAPE", or "LINE") by pressing +/-, then ENTER/MEM.

- 4 Set the timer.

1 Set the timer to the hour you want the music to go on by pressing +/- then ENTER/MEM. Set the minutes, then press ENTER/MEM.



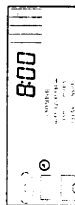
2 Set the timer to the hour you want the music to go off by pressing +/- then ENTER/MEM. Set the minutes, then press ENTER/MEM.



- 5 Set the volume by pressing +/- then ENTER/MEM.

- 6 Press STANDBY.

The ⌚ (clock) indication lights and the power goes off.



At the preset turn-on time, the power will go on and the music will play. The "ON" and "OFF" indications appear in the display window. The display back light does not function while the timer is operating even if the power is on. When the selected sound source is a tape, the tape transport direction mode becomes ◀ automatically. At the preset turn-off time the power will go off again.

To check when the player will go on

Press TIMER, then ENTER/MEM.

Each time you press the ENTER/MEM button, each stored setting appears. After you have checked the time, press TIMER again.

Continued on next page

Timer-Recording Radio Programmes

Waking Up to Music (continued)

To cancel the timer

Press STANDBY to make the ☉ (clock) indication disappear from the display window.

To have the player go on the next day at the same time

You need not set the timer again. The preset time and the sound source you chose are stored in memory until you reset them. If the ☉ (clock) indication is not lit in the display window, press STANDBY to reactivate the timer.

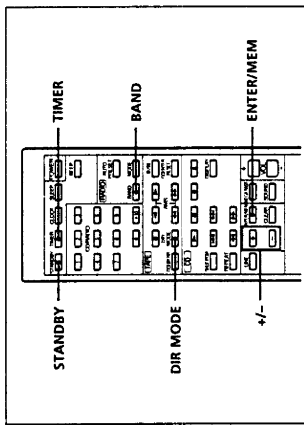
To change the preset time

Press TIMER, then ENTER/MEM to display what you want to change. Re-enter the setting and press TIMER.

About the volume of the sound

Your component system has the fade in function. The sound starts to play with lower volume than the setting and gradually will become the set volume.

You can set the timer to record the radio at a certain time. Make sure the current time is correct. If it is not, reset it referring to the section *Setting the Clock* on page 6-E. Make sure the ☉ (clock) indication is not lit in the display window.



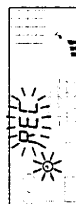
1 Tune in the radio station you want to record.

2 Insert a blank tape with the side you want to record on facing forward.

3 Select dual or single-sided recording by pressing DIR MODE.

To record	Display shows
One side of the tape	=
Both sides of the tape from the front side to reverse side only	⇄

4 Press TIMER, the ☉ (clock) and "PB" (playback) or "REC" (record) indications blink. Select "REC" by pressing +/-, then ENTER/MEM.



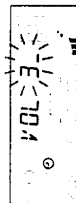
5 Press +/- until "RADIO" appears, then ENTER/MEM.

6 Set the timer.

1 Set the timer to the hour you want the music to go on by pressing +/-, then ENTER/MEM. Set the minutes, then press ENTER/MEM.



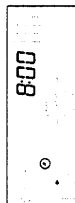
2 Set the timer to the hour you want the music to go off by pressing +/-, then ENTER/MEM. Set the minutes, then press ENTER/MEM.



7 Set the volume you want the radio programme to record by pressing +/-, If you do not want the sound come out, set the volume to "0". Then press ENTER/MEM.

8 Press STANDBY.

The ☉ (clock) indication lights and the power goes off automatically. Recording will start from the front side of the tape.



At the preset turn-on time the power will go on automatically and recording will start. "ON" and "OFF" will appear in the display window. The power will go off again at the preset turn-off time. "ON" and "OFF" will disappear from the display window. The display back light does not function even if the power is on.

To check when recording will start

Press TIMER, then ENTER/MEM. Each time you press ENTER/MEM, a stored setting (including the volume) lights up. When you finish checking, press TIMER again. The display which was lit before you pressed TIMER will reappear.

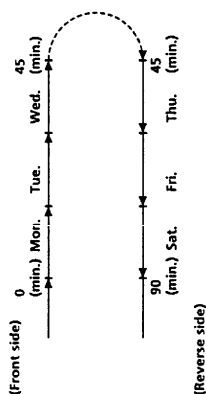
To cancel the timer

Press STANDBY to make the ☉ (clock) indication disappear.

To have the player go on the next day at the same time

You need not set the timer again. The reset time and the sound source you chose are stored in memory until you reset them. If the ☉ (clock) indication does not appear in the display window, press STANDBY to reactivate the timer. If the tape transport direction is ⇄, you can record both sides from the front side to reverse side everyday. When the reverse side of the tape is finished recording, timer-recording cannot continue.

Example: Recording a 15 minute-programme every 6 days. (Using a 90 minute-tape)

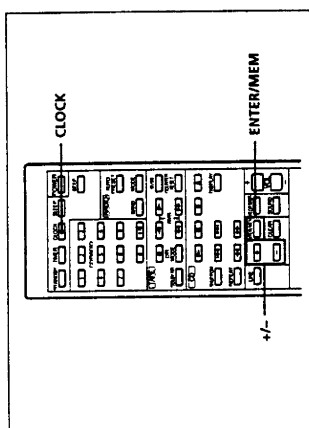


When the tape side recorded is (reverse side)

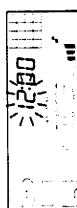
Timer-recording starts from the reverse side of the tape. When you record from the front side of the tape, press STANDBY to make the ☉ (clock) indication disappear, then press STANDBY again.

Setting the Clock

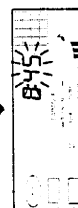
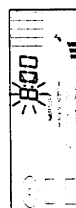
To use the timer, you need to set the clock. Connect the player to the mains.
(see *Connecting the Power* on page 5-E).
The "----" indication appears until you set the clock.



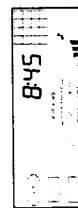
- 1 Depress and hold **CLOCK** until the hour digit blinks.
(PMC-3015* only) The "AM" or "PM" indication also blinks.
* excluding models for Germany and Italy



- 2 Set the current hour by pressing +/- until the correct hour is displayed. Then press **ENTER/MEM**.
The minute digits flash.
Set the minute by pressing +/- until the correct minute is displayed.



- 3 Press **CLOCK** again.
The clock starts from 00 seconds.



To check the time while playing a CD or the radio
Press **CLOCK**. The current time appears.
To return to the previous display, press **CLOCK** again.

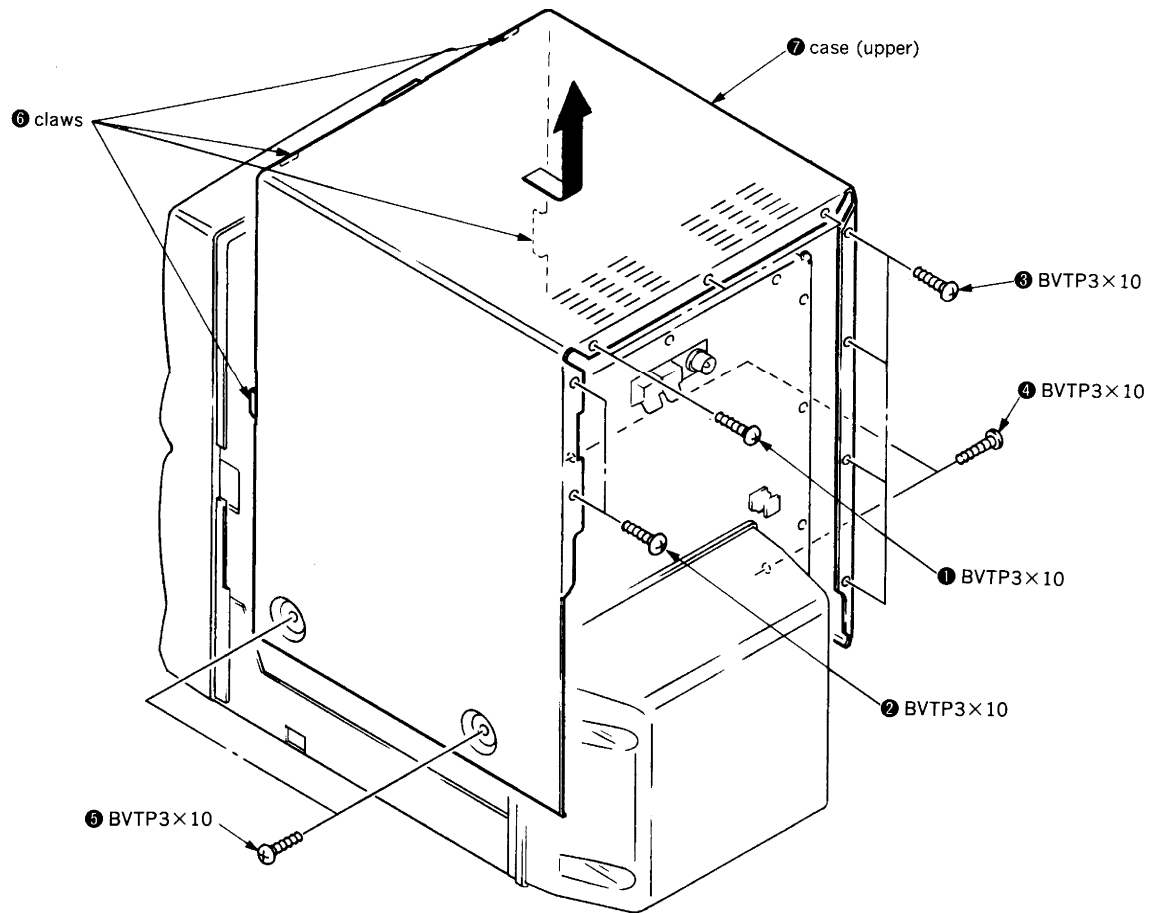
Time display system

PMC-3015 (models for Germany and Italy) and PMC-301L:
24-hour system
PMC-301S (excluding models for Germany and Italy):
12-hour system

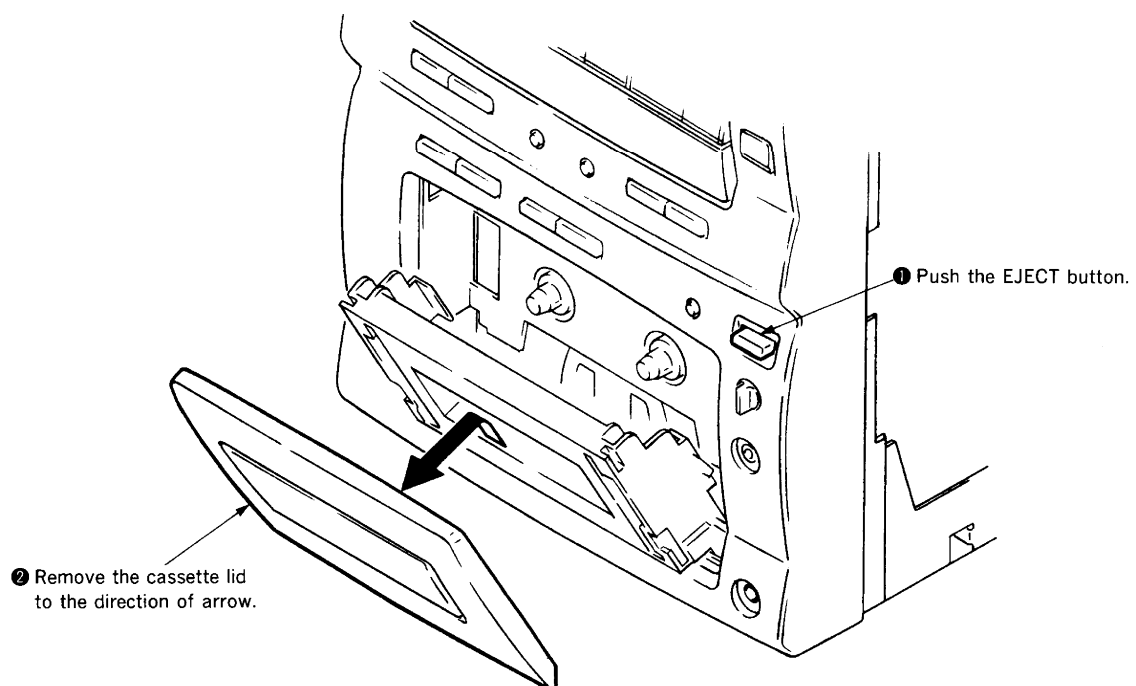
SECTION 2 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

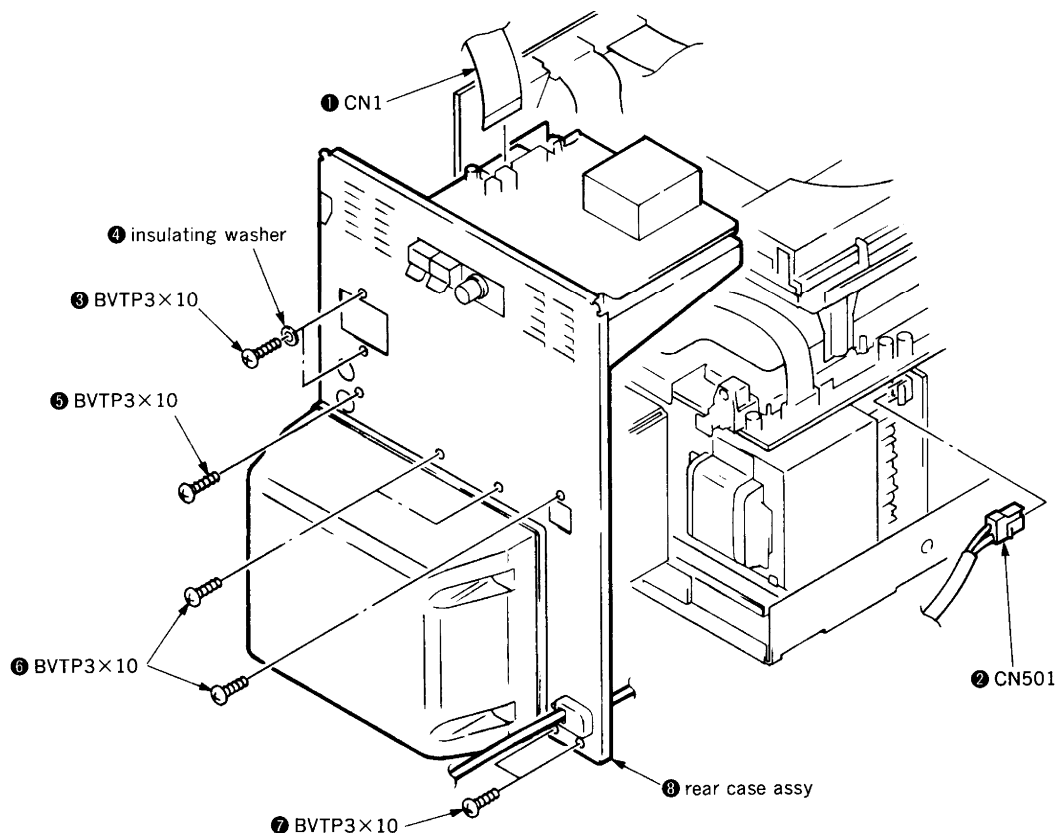
2-1. CASE (UPPER)



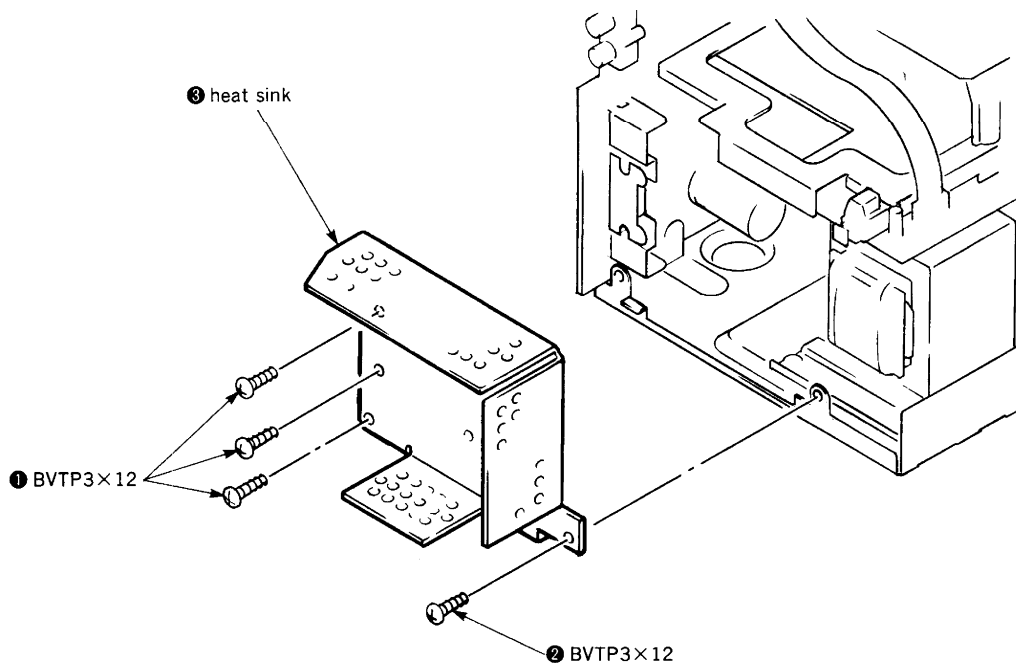
2-2. CASSETTE LID



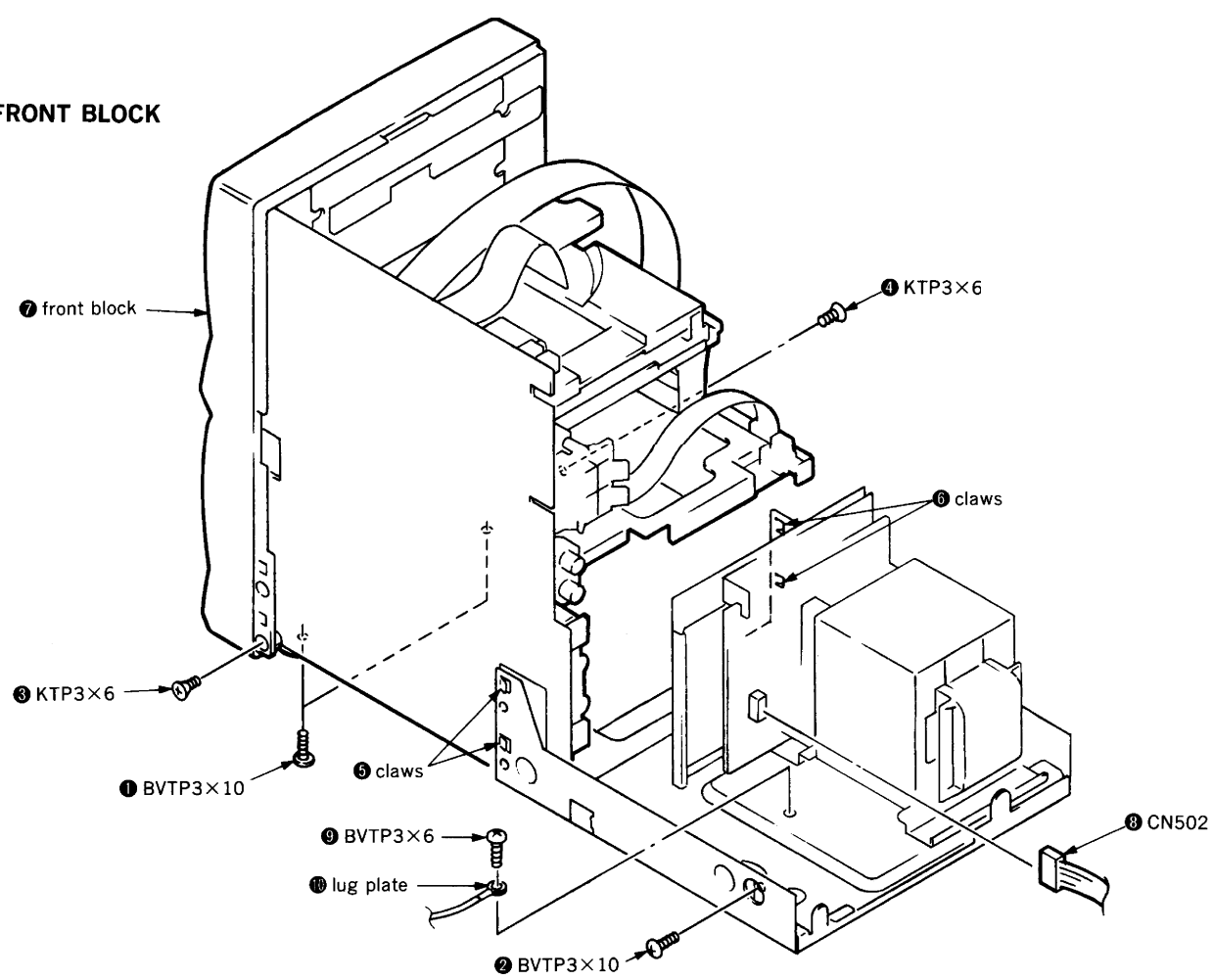
2-3. REAR CASE ASSY



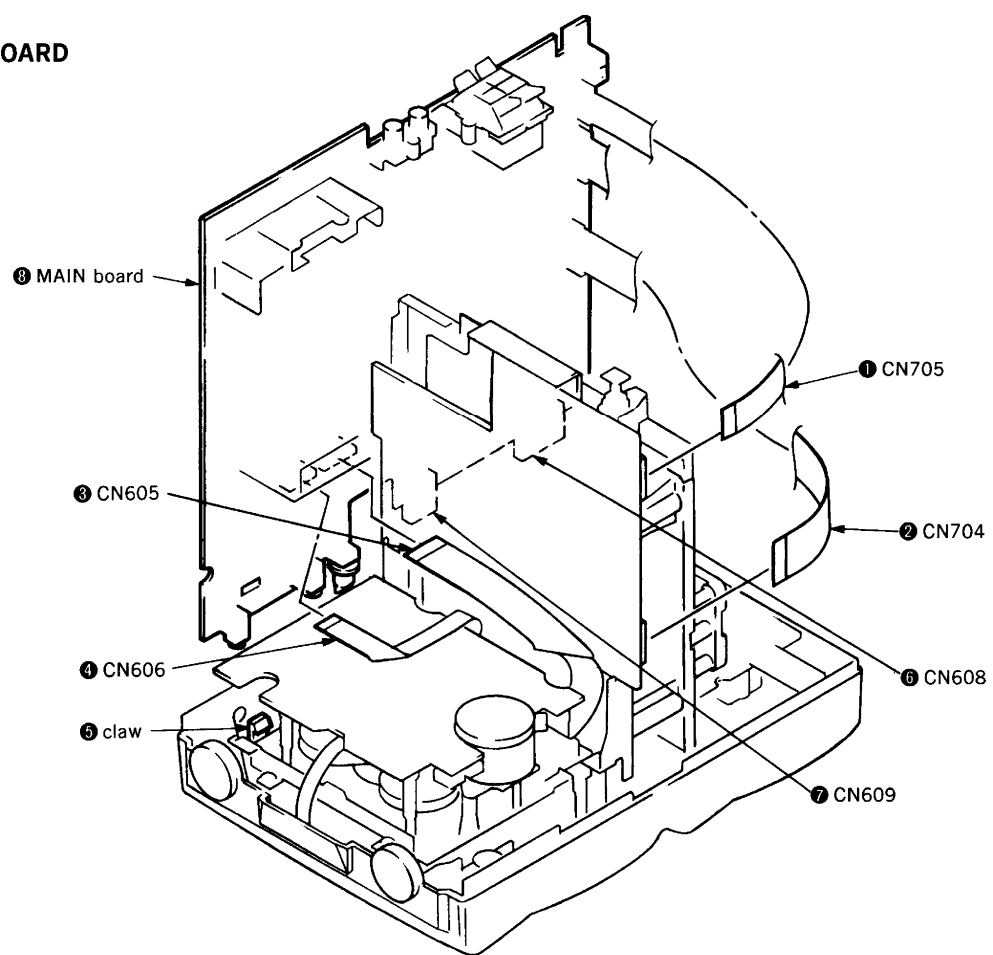
2-4. HEAT SINK



2-5. FRONT BLOCK

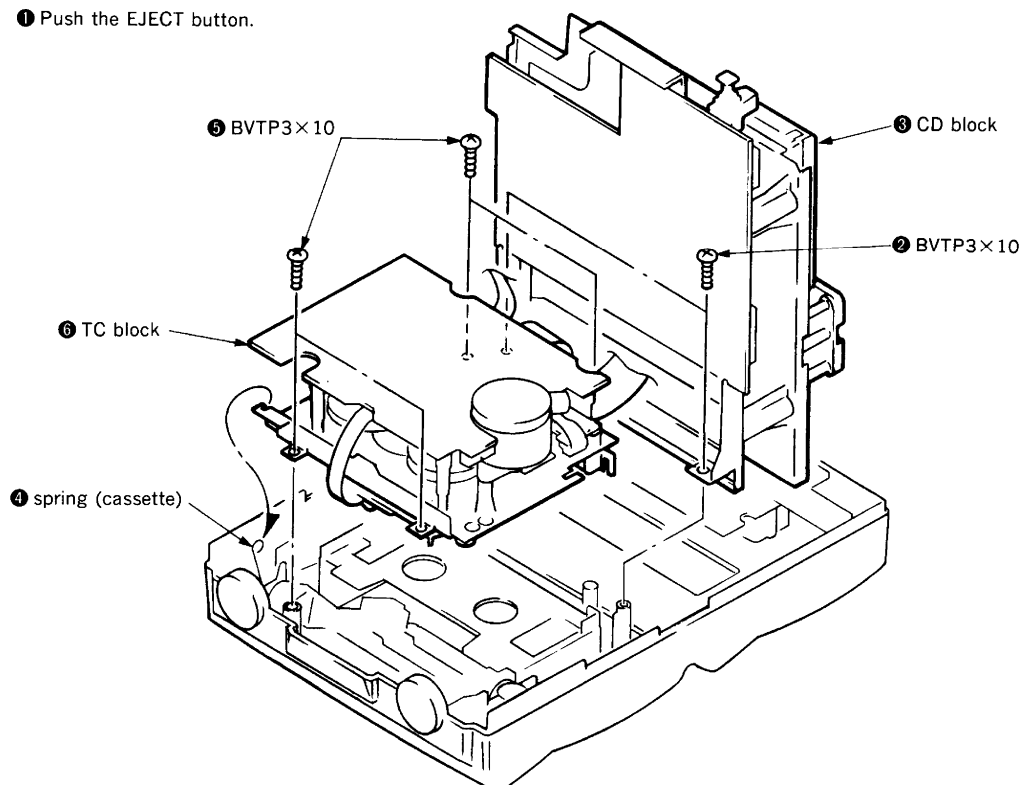


2-6. MAIN BOARD

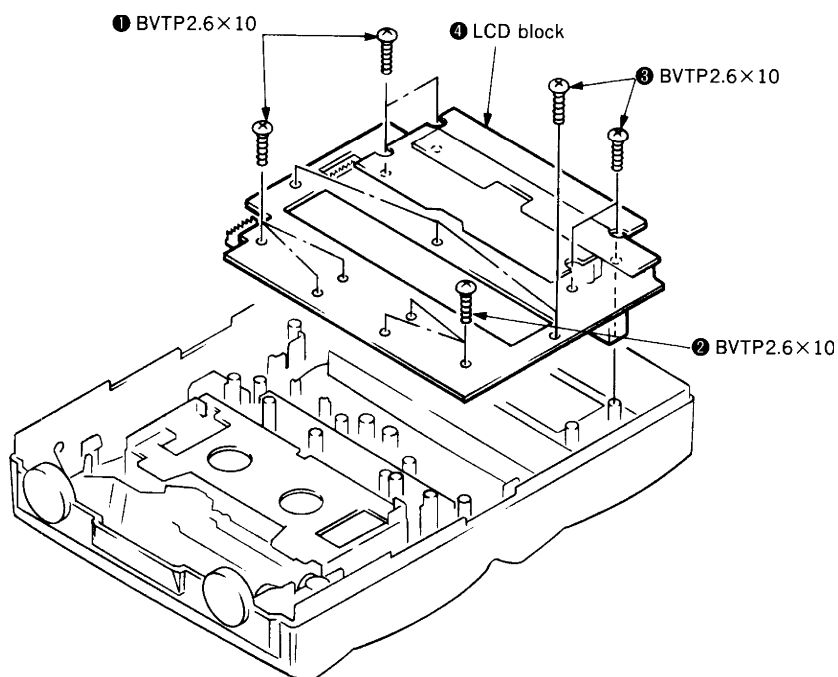


2-7. CD BLOCK, TC BLOCK

❶ Push the EJECT button.



2-8. LCD BLOCK



SECTION 3 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

record/playback/erase head	pinch rollers
idlers	rubber belts
capstan	
- Demagnetize the record/playback/erase head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed in the order given in this service manual.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	22.5—50g•cm (0.31—0.69oz•inch)
Forward back tension	CQ-102C	1.5—5g•cm (0.021—0.069oz•inch)
Reverse	CQ-102RC	22.5—50g•cm (0.31—0.69oz•inch)
Reverse back tension	CQ-102RC	1.5—5g•cm (0.021—0.069oz•inch)
Fast Forward	CQ-201B	※ 140—180g•cm (1.94—2.50oz•inch)

※ Before the fast forward torque measurement, the record/playback/erase head is turn to forward mode.

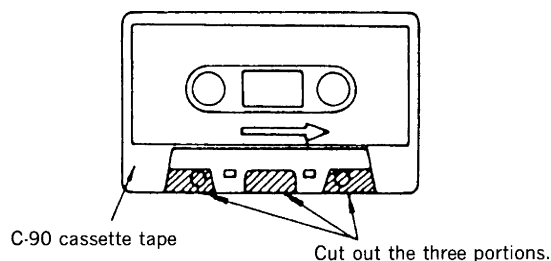
Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 100g (more than 3.53 oz)
Reverse	CQ-403R	

Head Height Adjustment

Procedure :

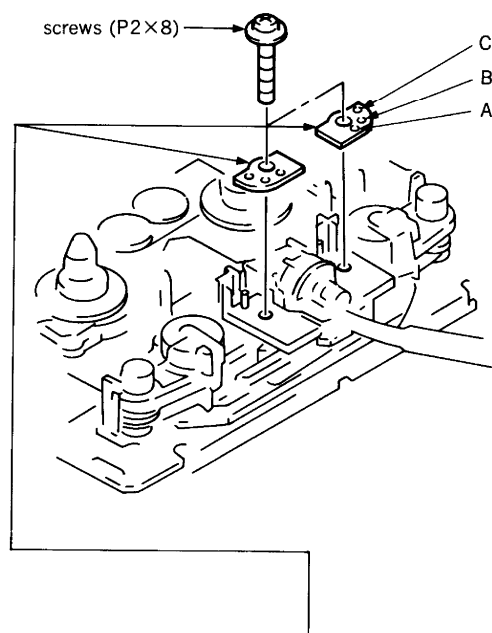
- If one does not have a mirror cassette CQ-009C (8-909-708-01), cut out the three portions of a 90-minute cassette tape shell as indicated below and use that cassette tape.



- Set to the FWD playback mode. Loosen the FWD tape guide fixing screw and adjust with inserting the head height adjustment shim to eliminate tape curl and tape twist in the portions of tape guide and head.
- Set to the REV playback mode. Loosen the REV tape guide fixing screw and adjust with inserting the head height adjustment shim to eliminate tape curl and tape twist in the portions of tape guide and head.
- After the adjustments, apply suitable locking compound to the screws (P2×8).

Note) Make the assembly do not touch the NR slider for head height adjustment shims.

Adjustment Location :



Head height adjustment shims

Part No.	t	Holes
3-384-356-01	0.30±0.02	without
3-384-356-11	0.35±0.02	A
3-384-356-21	0.40±0.02	B
3-384-356-31	0.45±0.02	C
3-384-356-41	0.50±0.02	without

SECTION 4 ELECTRICAL ADJUSTMENTS

4-1. DECK SECTION 0dB=0.775V

PRECAUTION

1. The adjustments should be performed in the order given in this service manual. As a rule, adjustments about playback should be performed before those about recording.
2. The adjustments should be performed before for both L-CH and R-CH.
3. Function modeTAPE

Standard Input Level

Input terminal	MIX MIC	LINE IN
Signal source impedance	600Ω	600Ω
Input signal level	2.5mV (−50dB)	0.44V (−5dB)
Frequency	1kHz	1kHz

Standard Output Level

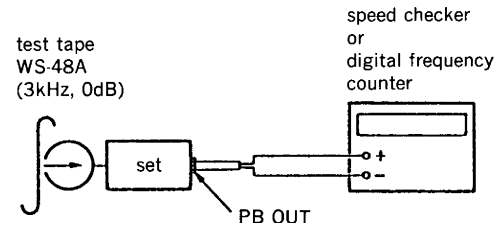
Output terminal	SP OUT (L, R)	H. P OUT	DOLBY OUT
Load impedance	4Ω	32Ω	no load
Output signal level	0.775V (0dB)	0.25V (−10dB)	0.28V (−8.8dB)

Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment
P-4-L300	315Hz, 0dB	playback level, record/playback/erase head azimuth and phase adjustments
P-4-A063	6.3kHz, −10dB	record/playback/erase head azimuth and phase adjustments
CS-123	—	record bias, record level adjustments

Tape Speed Adjustment

Procedure :



1. Set to the FWD playback mode.
2. Adjust RV303 so that the reading on the digital frequency counter is within the adjustment value below.

Adjustment Value : normal speed

Speed checker	Digital frequency counter
−0.67 to +0.67%	2,980 to 3,020Hz

Frequency difference between REV side should be within $\pm 1\%$ (30Hz).

3. Short the High/Normal speed select point and set to the High speed playback mode.
4. Adjust RV304 so that the reading on the digital frequency counter is within the adjustment value below.

Adjustment Value : high speed

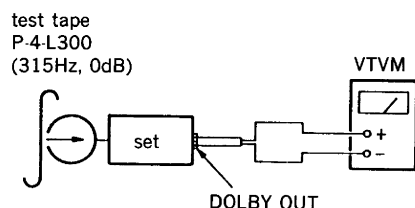
Speed checker	Digital frequency counter
−0.67 to +0.67%	5,960 to 6,040Hz

Frequency difference between REV side should be within $\pm 1\%$ (60Hz).

Adjustment Location : See page 22.

Playback Level Adjustment

Procedure :



1. Set to the FWD playback mode and adjust RV101 (L-CH) and RV201 (R-CH) so that the reading on the VTVM is within the adjustment value below.

Adjustment Value :

DOLBY OUT level: 0.17 to 0.19V (−12.2 to −13.2dB)
Level difference between channels: within 0.3dB

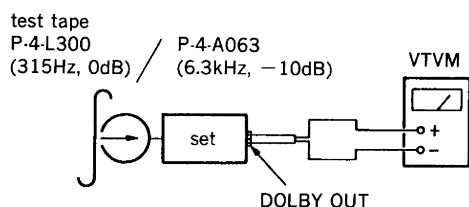
Confirm that the DOLBY OUT level does not change even if playback or stop operation is repeated several time.

2. Set to the REV playback mode and confirm that the DOLBY OUT level difference between FWD playback mode is within 0.5dB.

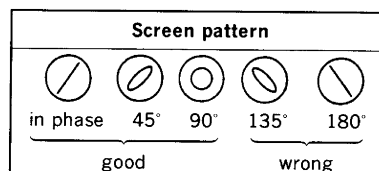
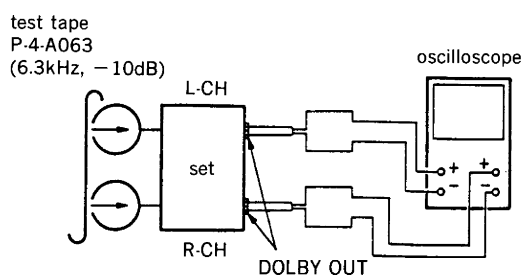
Adjustment Location : See page 22.

Record/Playback/Erase Head Azimuth and Phase Adjustments

Procedure :

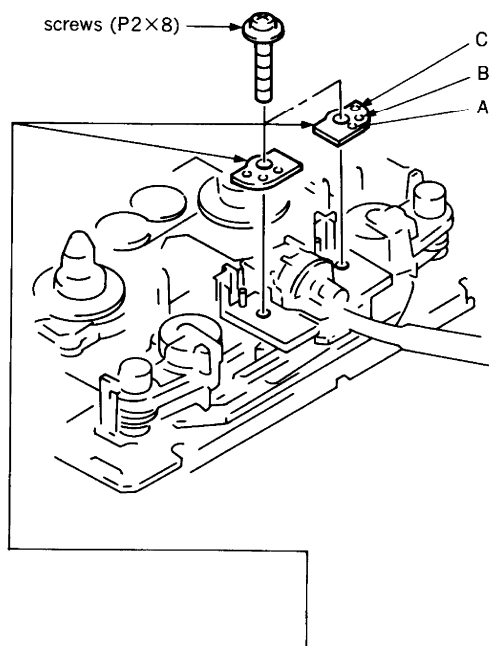


1. Set to the FWD (REV) playback mode with P-4-L300 and reading on VTVM.
2. Set to the FWD (REV) playback mode with P-4-A063 and confirm that the reading on the VTVM is within -12 ± 2 dB relative to the P-4-L300 playback level.
3. If the confirmation value are not satisfied, replace the adjustment shims and repeat the steps 1 and 2.



4. Set to the FWD (REV) playback mode and confirm that the screen pattern.
5. After the adjustments, apply suitable locking compound to the screws (P2×8).

Adjustment Location :

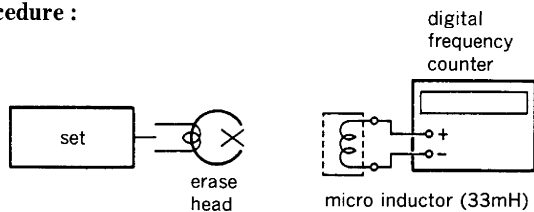


Head height adjustment shims

Part No.	t	Holes
3-384-356-01	0.30 ± 0.02	without
3-384-356-11	0.35 ± 0.02	A
3-384-356-21	0.40 ± 0.02	B
3-384-356-31	0.45 ± 0.02	C
3-384-356-41	0.50 ± 0.02	without

Record Bias Frequency Adjustment

Procedure :



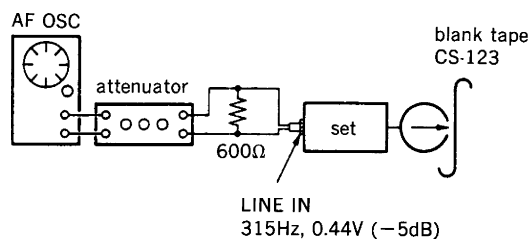
1. Set to no signal record mode.
2. An approach the micro inductor to the core portion of erase head.
3. Adjust T301 so that the reading on digital frequency counter is within $107.5 \pm 2\text{kHz}$.

Adjustment Location : See page 22.

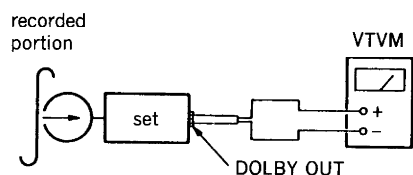
Record Level Adjustment

Procedure :

1. Mode : record



2. Mode : FWD playback



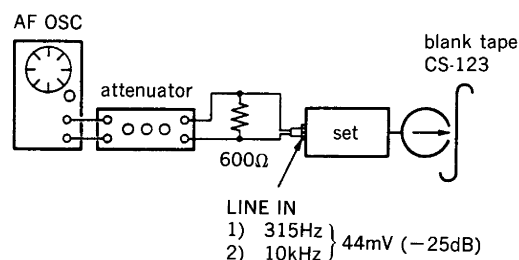
3. Confirm that the DOLBY OUT level difference at record and playback is within $0 \pm 0.5\text{dB}$ relative to the DOLBY OUT level at 315Hz with -5dB inputs from LINE IN. If the confirmation value are not satisfied, adjust RV102 (L-CH) and RV202 (R-CH) and repeat the steps 1 and 2.
4. Confirm that the REV playback mode is within confirmation value.

Adjustment Location : See page 22.

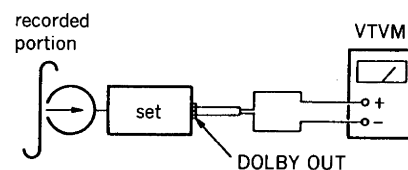
Record Bias Adjustment

Procedure :

1. Mode : record



2. Mode : FWD playback



3. Confirm that the DOLBY OUT level difference between 315Hz with -25dB and 10kHz with -25dB is within $0 \pm 1\text{dB}$.

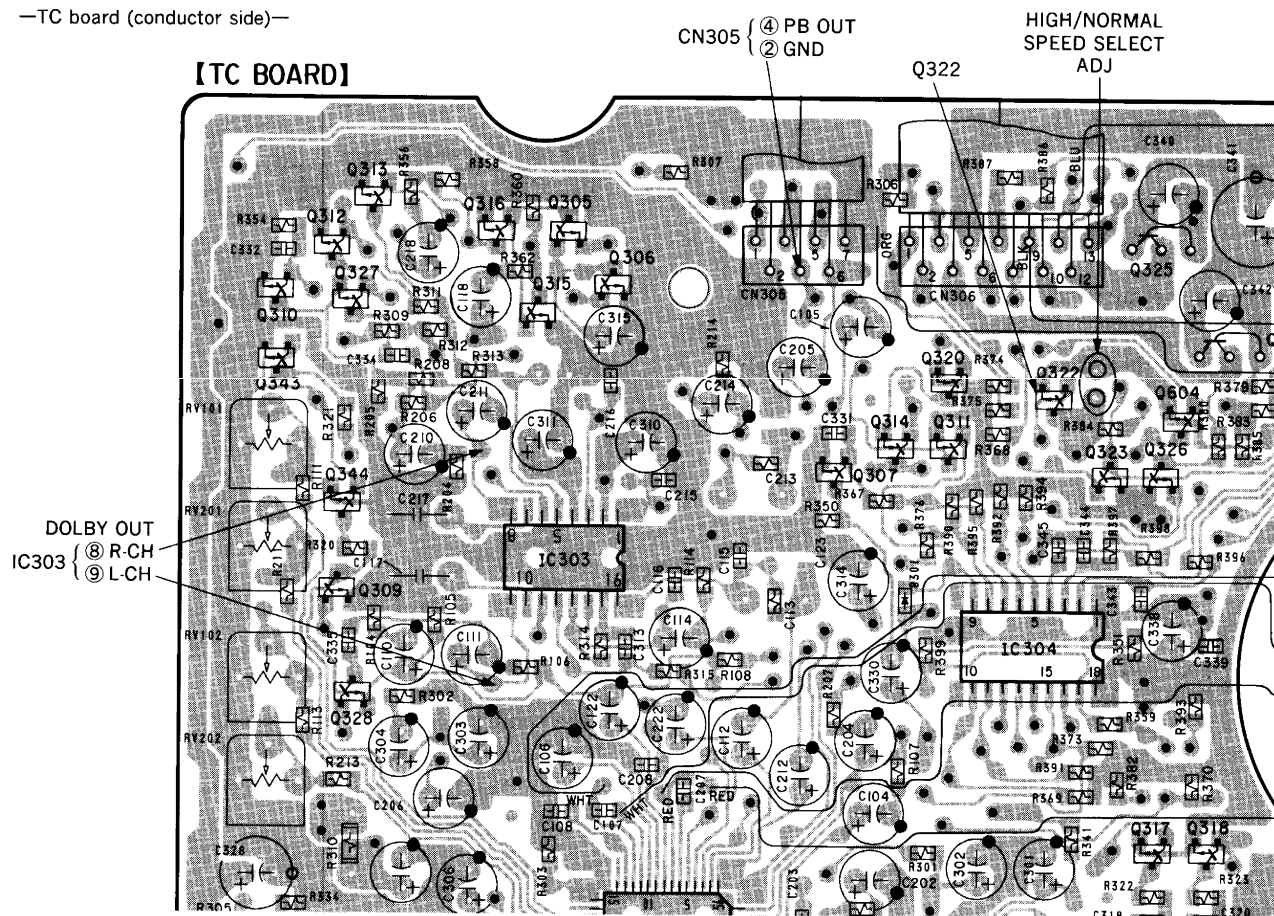
If the confirmation value are not satisfied, adjust RV103 (L-CH) and RV203 (R-CH) and repeat the steps 1 and 2.

4. Confirm that the REV playback mode is within confirmation value.

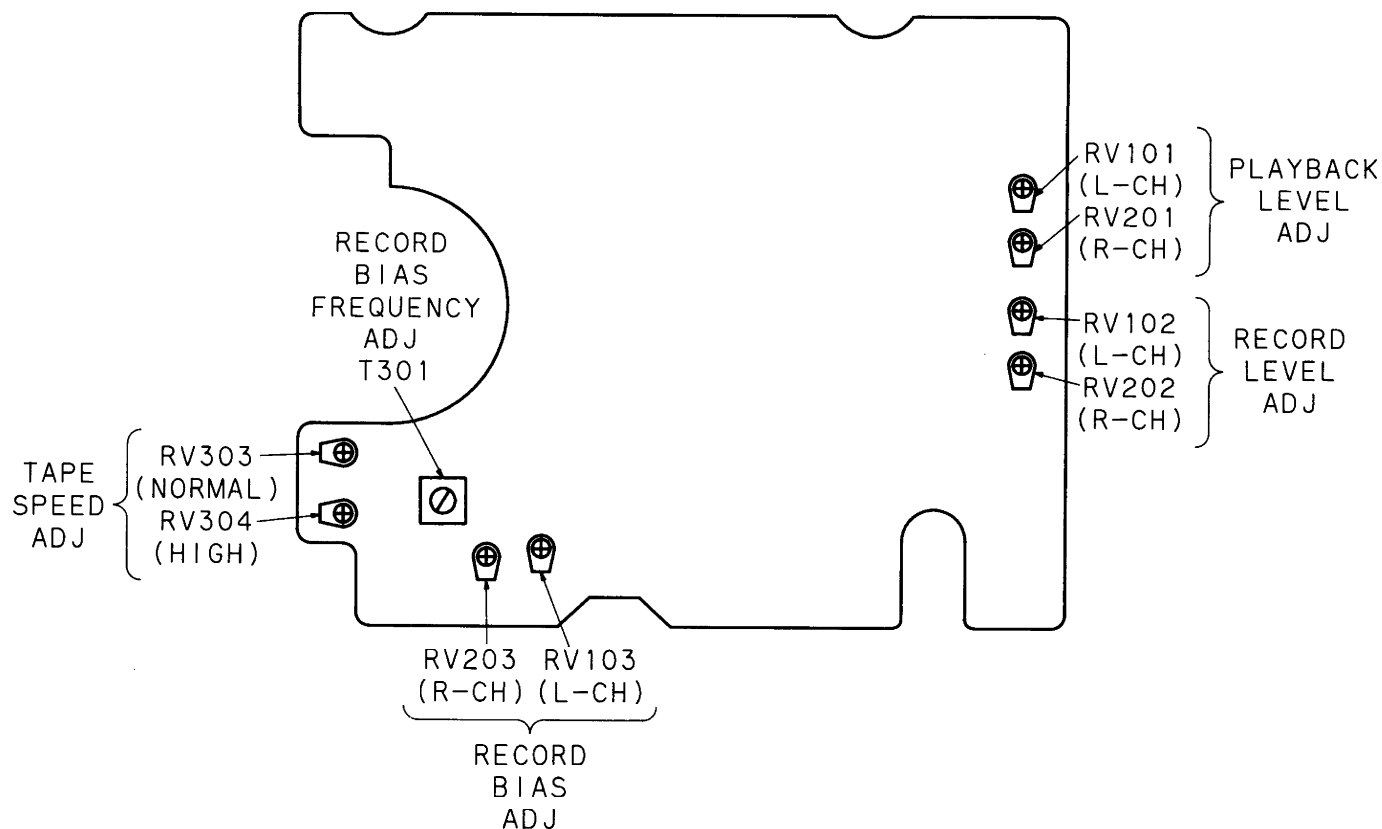
Adjustment Location : See page 22.

Deck Section Adjustment Location :

—TC board (conductor side)—



—TC board (component side)—

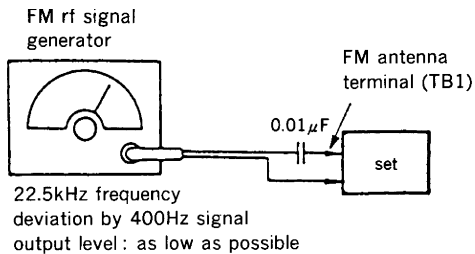


4-2. TUNER SECTION 0dB=1 μ V

● FM Section

Setting :

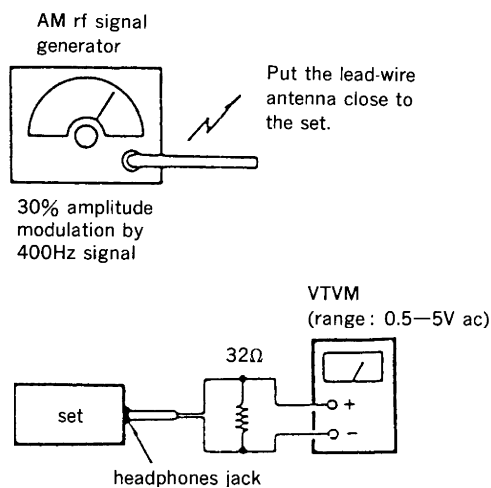
BAND switch : FM



● MW/LW Section

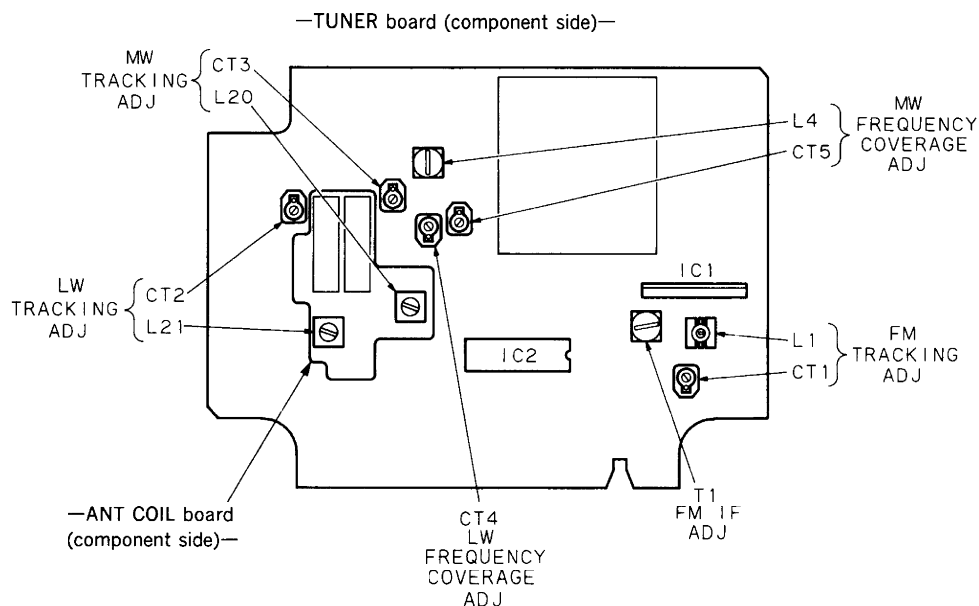
Setting :

BAND switch : MW/LW



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

Tuner Section Adjustment Location :



FM TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

L1	CT1
87.5MHz	108.0MHz

FM IF ADJUSTMENT

Adjust for a maximum reading on VTVM.

T1
10.7MHz

MW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

L4	CT5
531kHz	1,611kHz

MW TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

L20	CT3
621kHz	1,404kHz

LW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

CT4
153kHz

LW TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

L21	CT2
162kHz	261kHz

4-3. CD SECTION

Notes on Adjustment

1. Perform Traverse adjustment in test mode.
After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.
4. Short the both sides of C735 for stop operation of anti-shock circuit.

- Switch position
Function.....CD

Before Adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

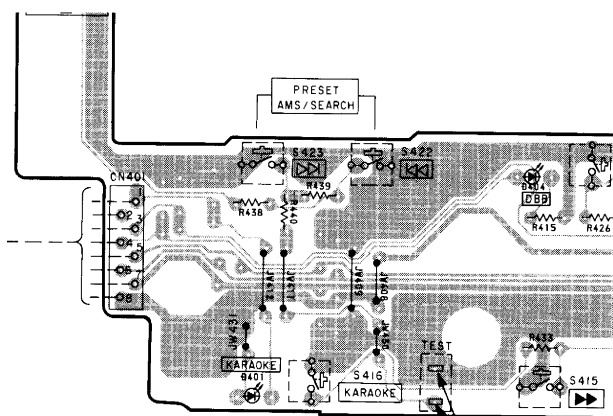
• In case of Test Mode

1. Short the TEST pattern on SW board with jumper wire.
2. While press the SOUND and KARAOKE buttons, insert the AC power supply.
3. The LCD back light is turn on, and later release the shorted jumper wire.
4. Then the LCD indicates **ACD----**, the test mode is set.

• Release the Test Mode

Push OFF the POWER button, the test mode is release.

SW board (conductor side)



Short the jumper wire.

• Sled Motor Check

Press the $\triangleright\triangleleft$, $\triangleleft\triangleleft$ buttons and confirm that the FOP moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.

$\triangleright\triangleleft$: FOP moves to the outer circumference

$\triangleleft\triangleleft$: FOP moves to the inner circumference

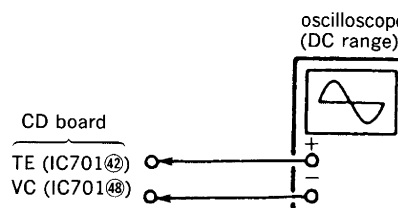
• Focus Search Check

1. Push the $\triangleright\Box\Box$ button. (Focus search operation is performed continuously.)
2. Look at the FOP objective lens and confirm the it moves up and down smoothly, with no catching or abnormal noises.
3. Push the \blacksquare button.
Confirm that focus search operation stops. If it does not, push the \blacksquare button again longer.

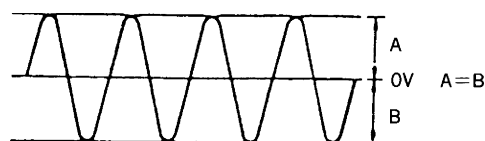
Traverse Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Connect the oscilloscope between TE and VC.
2. Put the set into test mode.
(LCD indication: **ACD----**)
3. Push the \triangle button to open the tray and insert disc (YEDS-18).
4. Push the \triangle button once more to close the tray.
(LCD indication: **MCB----**)
5. Press the $\triangleright\triangleleft$ and $\triangleleft\triangleleft$ buttons to move the FOP to the center.
6. Push the $\triangleright\Box\Box$ button. (LCD indication: **PL 7 F**)
7. Push the \blacksquare button. (LCD indication: **SE 7 F**)
8. Push the $\triangleright\Box\Box$ button. (LCD indication: **CD F -**)
9. Adjust RV704 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
10. Release the test mode after adjustment is completed.

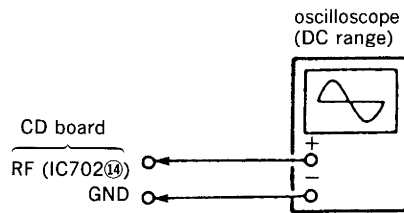


Adjustment Location : See page 27.

Focus Bias Adjustment

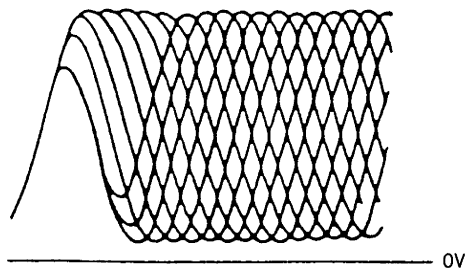
This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Connect the oscilloscope between RF and GND.
2. Insert disc (YEDS-18) and push the ▷ button.
3. Adjust RV701 so that the oscilloscope waveform is maximum as shown in the figure below (eye pattern).

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : See page 27.

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

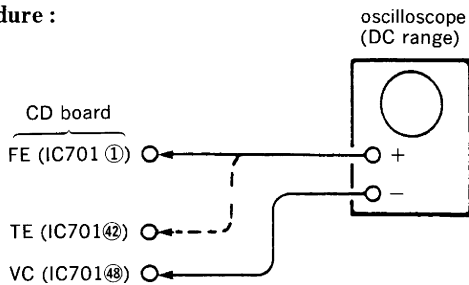
	Gain	Focus	Tracking
Symptoms			
<ul style="list-style-type: none"> • The time until music starts becomes longer for ■ →▷ button on automatic selection. (◀◀, ▶▶ buttons pressed.) (Normally takes about 2 seconds.) 		low	low or high
<ul style="list-style-type: none"> • Music does not start and disc continues to rotate for ■ →▷ button or automatic selection. (◀◀, ▶▶ buttons pressed.) 		—	low
<ul style="list-style-type: none"> • Sound is interrupted during PLAY. Or time counter display stops progressing. 		—	low
<ul style="list-style-type: none"> • More poise during 2-axis device operation. 		high	high

The following is a simple adjustment method.

—Simple Adjustment—

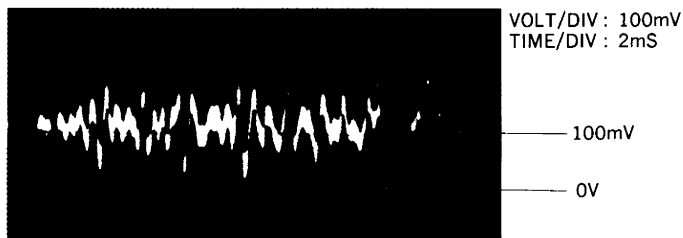
Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure :



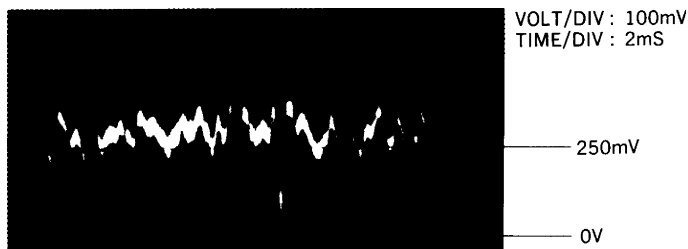
1. Keep the set horizontal.
If the set not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.
2. Insert disc (YEDS-18) and push the \triangleright \square button.
3. Connect oscilloscope to FE on the CD board.
4. Adjustment RV702 so that the waveform is as shown in the figure below. (focus gain adjustment)

• Correct Example



• Incorrect Examples (DC level changes more than on adjusted waveform)

low focus gain



high focus gain



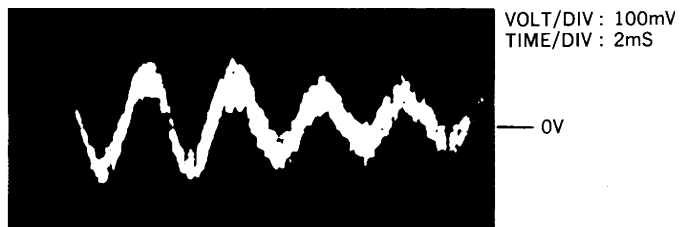
5. Connect oscilloscope to TE on the CD board.
6. Adjust RV703 so that the waveform is as shown in the figure below. (tracking gain adjustment)

• Correct Example



• Incorrect Examples (fundamental wave appears)

low tracking gain



high tracking gain (higher fundamental wave than for low gain)

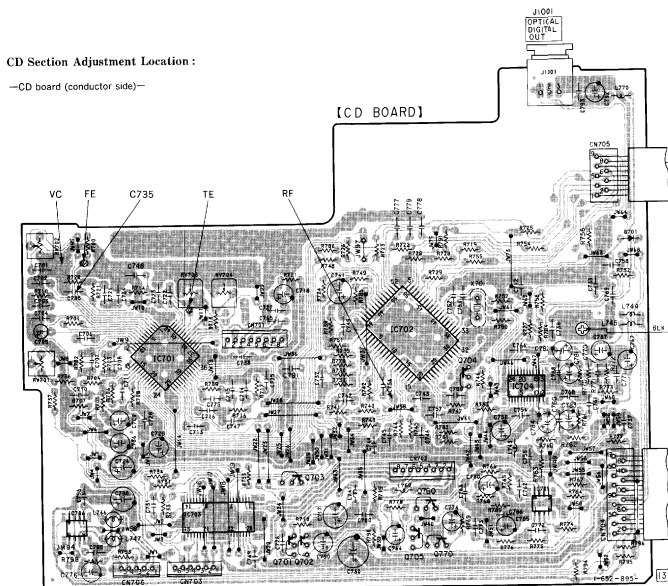


Adjustment Location : See page 27.

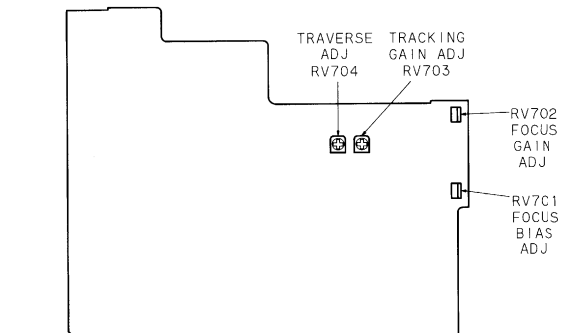
SECTION 5 DIAGRAMS

CD Section Adjustment Location :

—CD board (conductor side)—



—CD board (component side)—



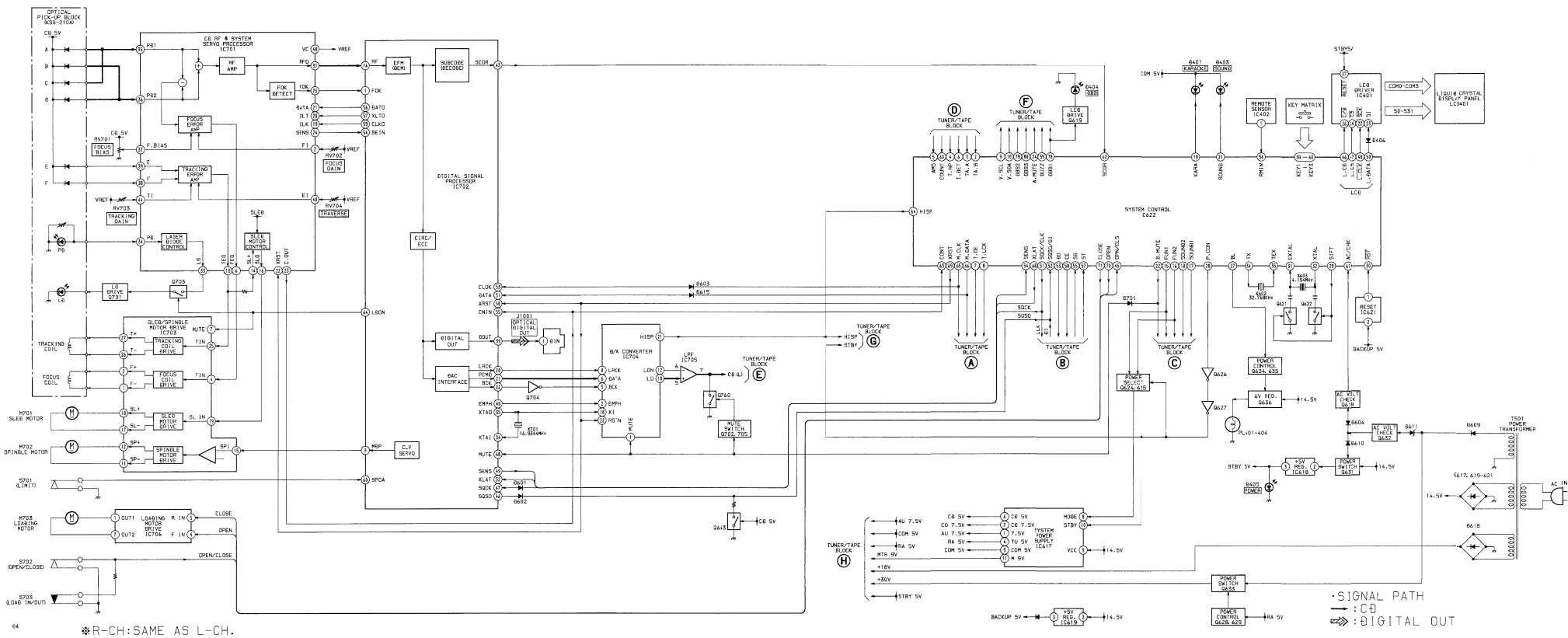
5-1. PIN DESCRIPTION

• System Control (IC622 CXP84124-016Q)

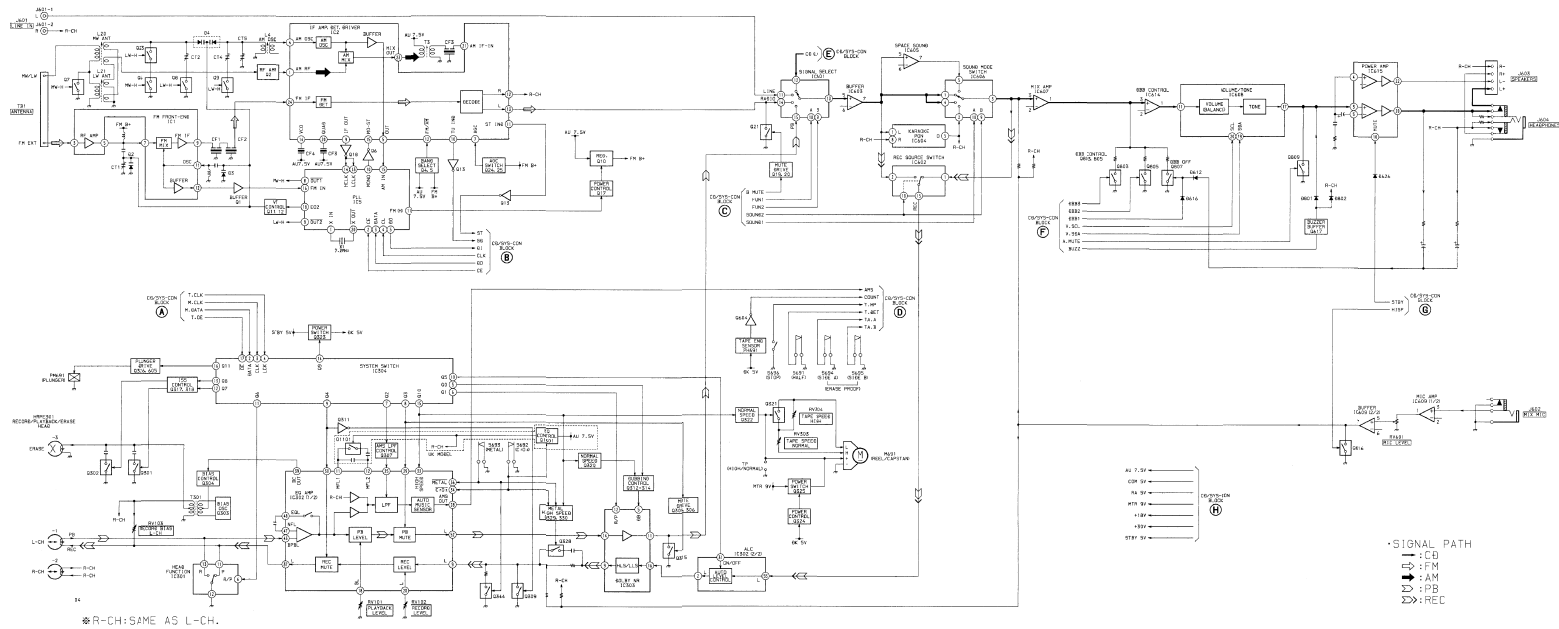
Pin No.	Pin Name	I/O	Pin Description
1	VOFF	O	Not used.
2	TA. B	I	Erase proof switch input of tape reverse side.
3	TA. A	I	Erase proof switch input of tape forward side.
4	T. HP	I	Head position switch input of tape.
5	AMS	I	AMS signal input of tape.
6	T. DET	I	Cassette detection switch input of tape.
7	T. OE	O	Enable control output of tape.
8	T. LCK	O	Load clock output of tape.
9	V. SCL	O	Serial clock output of electric volume.
10	V. SDA	O	Serial data output of electric volume.
11	ECHO1	O	Not used.
12	ECHO2	O	Not used.
13	ECHO3	O	Not used.
14	MIC/DET	I	Not used.
15	FUN1	O	Function select output
16	FUN2	O	Function select output
17	SOUND1	O	Sound mode select output
18	SOUND2	O	Sound mode select output
19	KARA	O	KARAOKE LED output
20	ECHO	O	Not used.
21	SOUND	O	SOUND LED output
22	B. MUTE	O	Block mute output
23	SP. MUTE	O	Not used.
24	A. MUTE	O	Audio mute output
25	NC	O	Not used.
26	NC	O	Not used.
27	BL	O	Back light control output of display.
28	P. CON	O	Power supply control output
29	SHIFT	O	Shift clock output
30	RST	I	Reset input
31	EXTAL	I	4.19MHz oscillator input
32	XTAL	O	4.19MHz oscillator output
33	VSS	—	GND
34	TX	O	32.768kHz oscillator output
35	TEX	I	32.768kHz oscillator input
36	AVSS	—	AD GND
37	BU5V	I	AD reference voltage input
38	KEY1	I	Key input
39	KEY2	I	Key input
40	KEY3	I	Key input
41	SEL1	I	Destination setting input
42	SEL2	I	Destination setting input
43	9/10K	I	9k/10k step select input of AM.
44	9VCHK	I	Decrease voltage detection of 9V.
45	OPN/CLS	I	OPEN/CLOSE detection switch input of CD tray.
46	L. CD	O	Command/data select output of LCD data.

Pin No.	Pin Name	I/O	Pin Description
47	L. CS	O	Chip select output of LCD driver.
48	L. CLK	O	Serial clock output of LCD.
49	NC	O	Not used.
50	L. DATA	O	Data output of LCD.
51	SQCK/CLK	O	Sub Q data read-out clock of CD and lock data input clock of radio.
52	SQSO/DI	I	Sub Q data input of CD and lock data input of radio.
53	DO	O	Frequency data output of radio.
54	SENS	I	SENSE signal input of CD.
55	SD	I	Signal detection input of radio.
56	RMIN	I	Remote commander signal input.
57	ST	I	Stereo signal input of radio.
58	CE	O	PLL IC chip enable output of radio.
59	BEEP	O	Beep sound output
60	COUNT	I	Tape counter signal input
61	AC/CIK	I	AC input detection
62	SCOR	I	Sub code sync detection signal input of CD.
63	CONT	I	Track jump count signal input of CD.
64	HSP	O	Hi-speed/normal-speed select output of CD.
65	M. CLK	O	Serial clock output of tape and CD.
66	M. DATA	O	Serial data output of tape and CD.
67	NC	I	Not used.
68	XLAT	O	Serial data latch output of CD.
69	XRST	O	System reset output of CD.
70	OPEN	O	Loading motor drive output of CD. (open)
71	CLOSE	O	Loading motor drive output of CD. (close)
72	BU5V	—	VDD
73	NC	—	Not used.
74	CGLAT	O	Not used.
75	S. MUTE	O	Not used.
76	VSW	O	Not used.
77	G. DISC	I	CDG detection input
78	DBB1	O	Dynamic bass boost control output
79	DBB2	O	Dynamic bass boost control output
80	DBB3	O	Dynamic bass boost control output

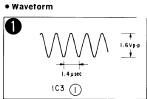
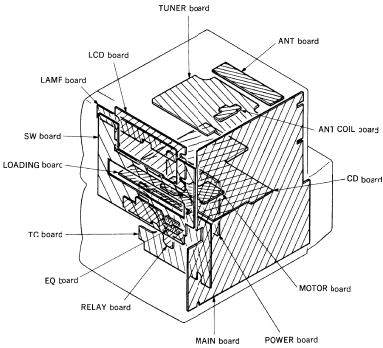
5-2. BLOCK DIAGRAM—CD/SYSTEM CONTROL SECTION—



5-3. BLOCK DIAGRAM—TUNER/DECK SECTION—

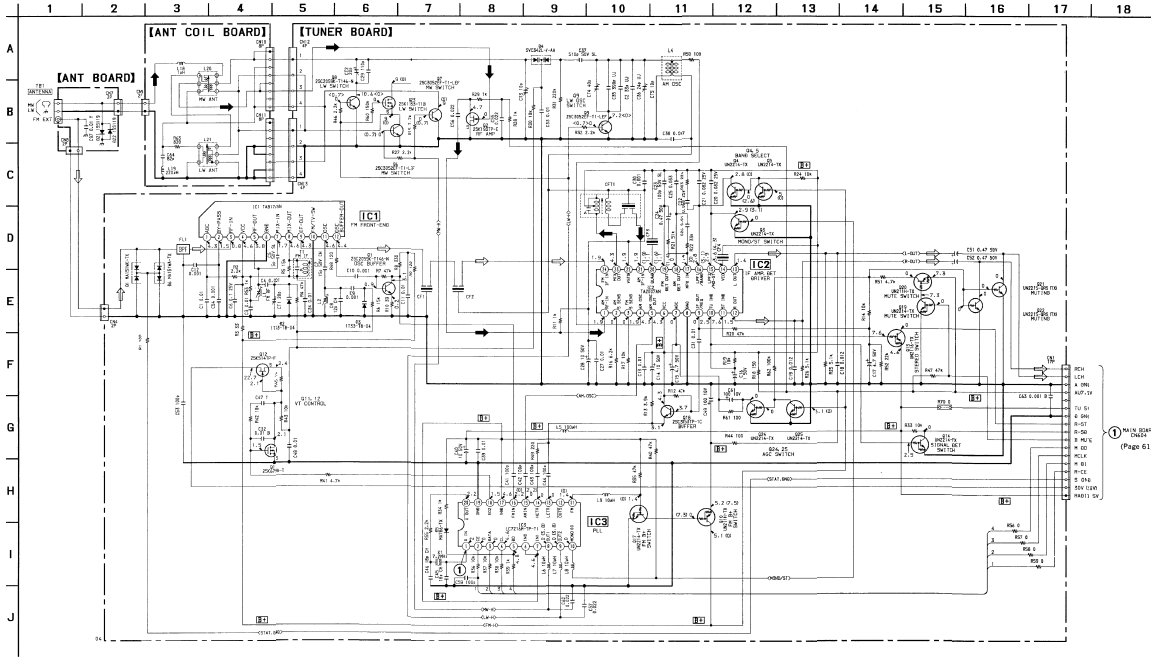


5-4. CIRCUIT BOARDS LOCATION

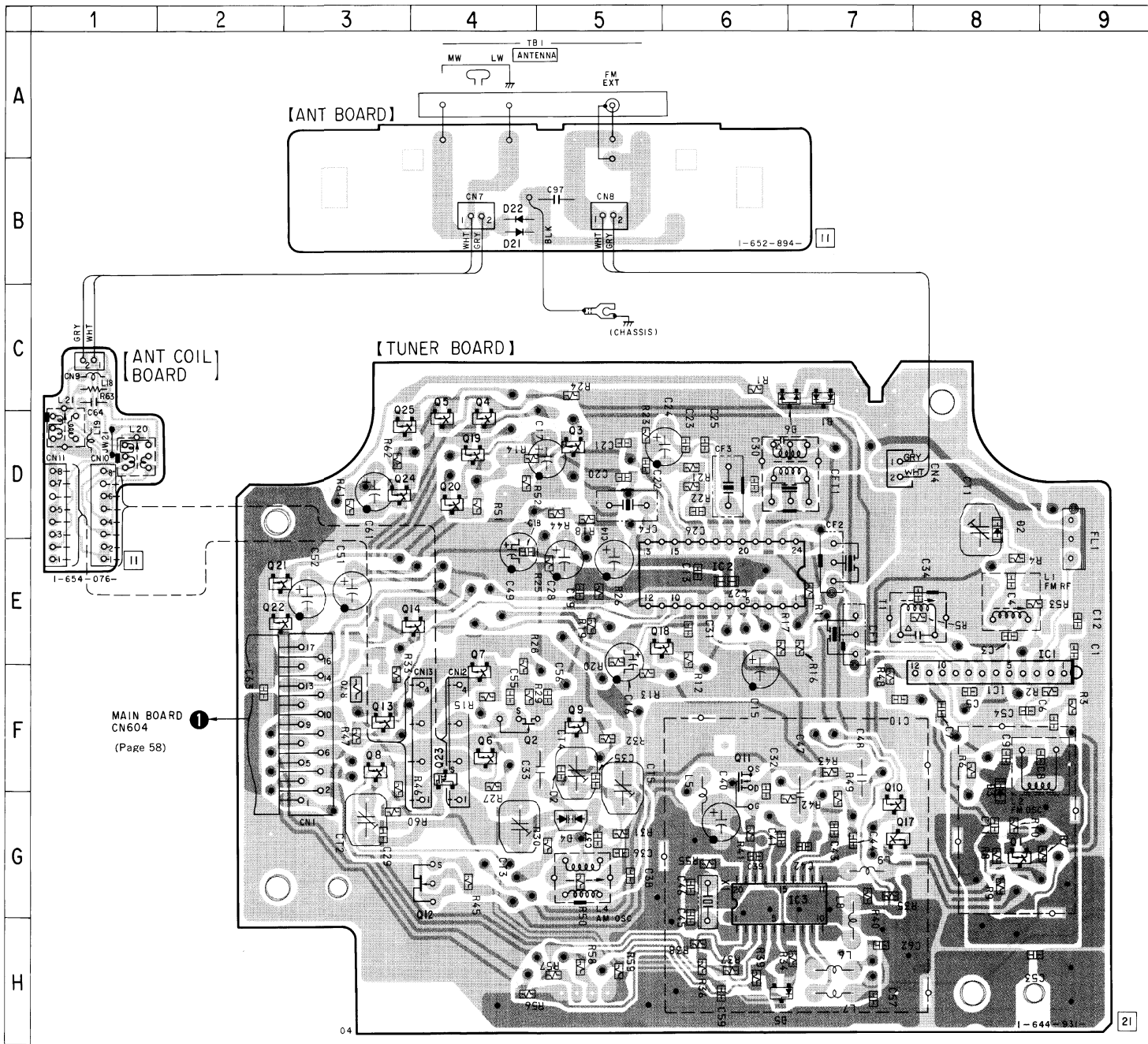


- NOTE:
- All capacitors are in μ F unless otherwise noted. μ F : μ F 50WV or less are not indicated except for electrolytics and tantalums
 - All resistors are in Ω and 1/4W or less unless otherwise specified.
 - Δ : internal component.
 - \square : B+ Line
 - Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
 - no mark : FM
 - () : MW
 - < : LW
 - Voltages are taken with a VOM (Input Impedance 10M Ω)
 - Voltage variations may be noted due to normal production tolerances.
 - Waveforms are taken with a oscilloscope.
 - Voltage variations may be noted due to normal production tolerances.
 - Circled numbers refer to waveforms.
 - Signal path
 - \rightarrow : FM
 - \rightarrow : MW

5-5. SCHEMATIC DIAGRAM—TUNER SECTION— • Refer to page 66 for IC Block Diagrams.



5-6. PRINTED WIRING BOARDS—TUNER SECTION— • Refer to page 55 for Semiconductor Lead Layouts.



• Semiconductor Location

Ref. No.	Location
D1	C-7
D2	D-8
D3	F-8
D4	G-5
D5	H-6
D6	C-6
D21	B-4
D22	B-4
IC1	E-8
IC2	E-6
IC3	G-7
Q1	G-8
Q2	F-4
Q3	D-5
Q4	D-4
Q5	D-4
Q6	F-4
Q7	E-4
Q8	F-3
Q9	F-5
Q10	G-7
Q11	F-6
Q12	G-4
Q13	F-3
Q14	E-3
Q17	G-7
Q18	E-5
Q19	D-4
Q20	D-4
Q21	E-2
Q22	E-2
Q23	F-4
Q24	D-3
Q25	D-3

Note :

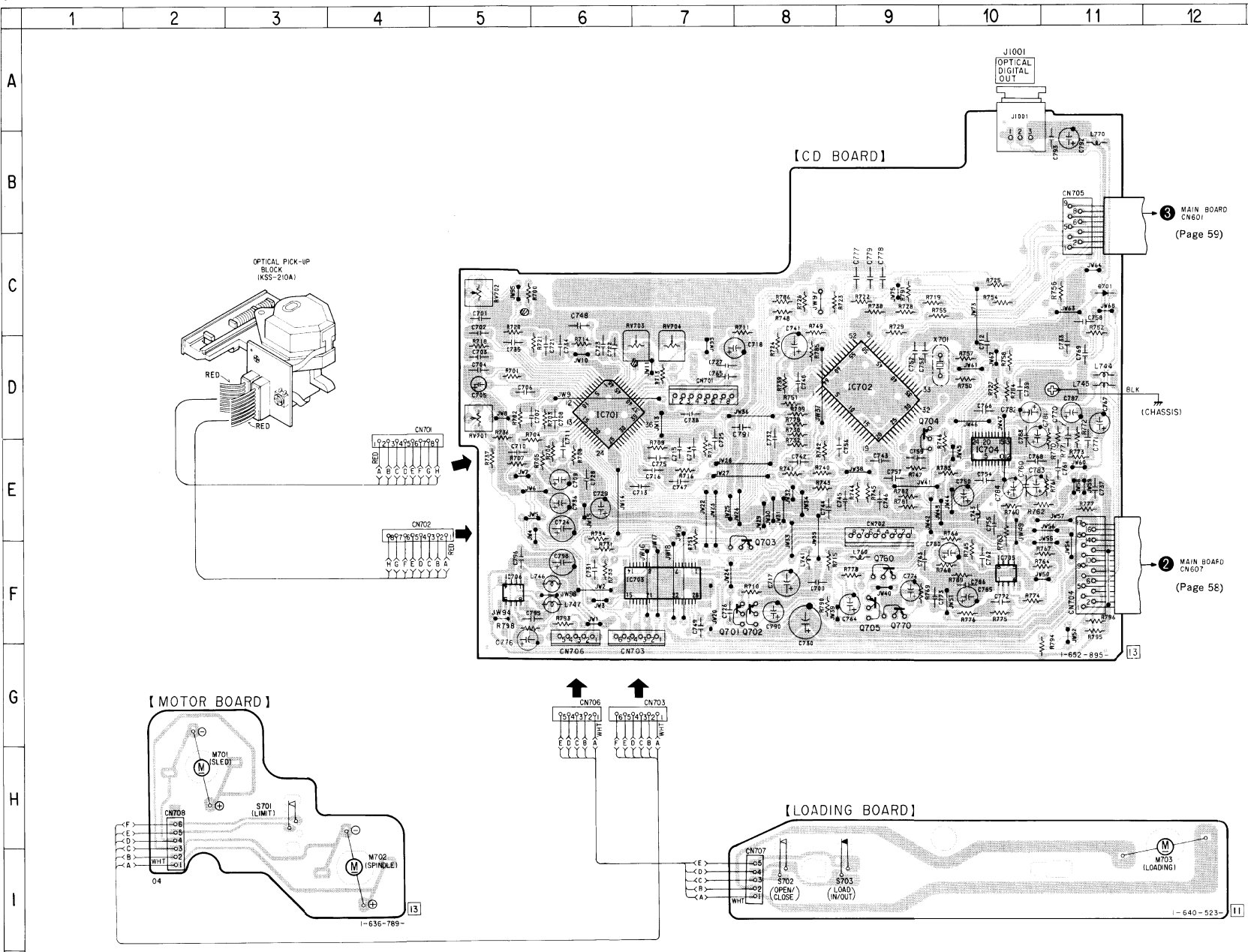
- : parts extracted from the component side.
- : Through hole.
- : indicates side identified with part number.
- : Pattern on the side which is seen.
- * : Pattern on the side which is seen.

5-7. PRINTED WIRING BOARDS—CD SECTION— • Refer to page 55 for Semiconductor Lead Layouts.

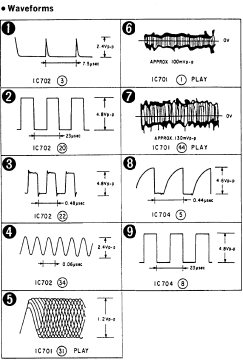
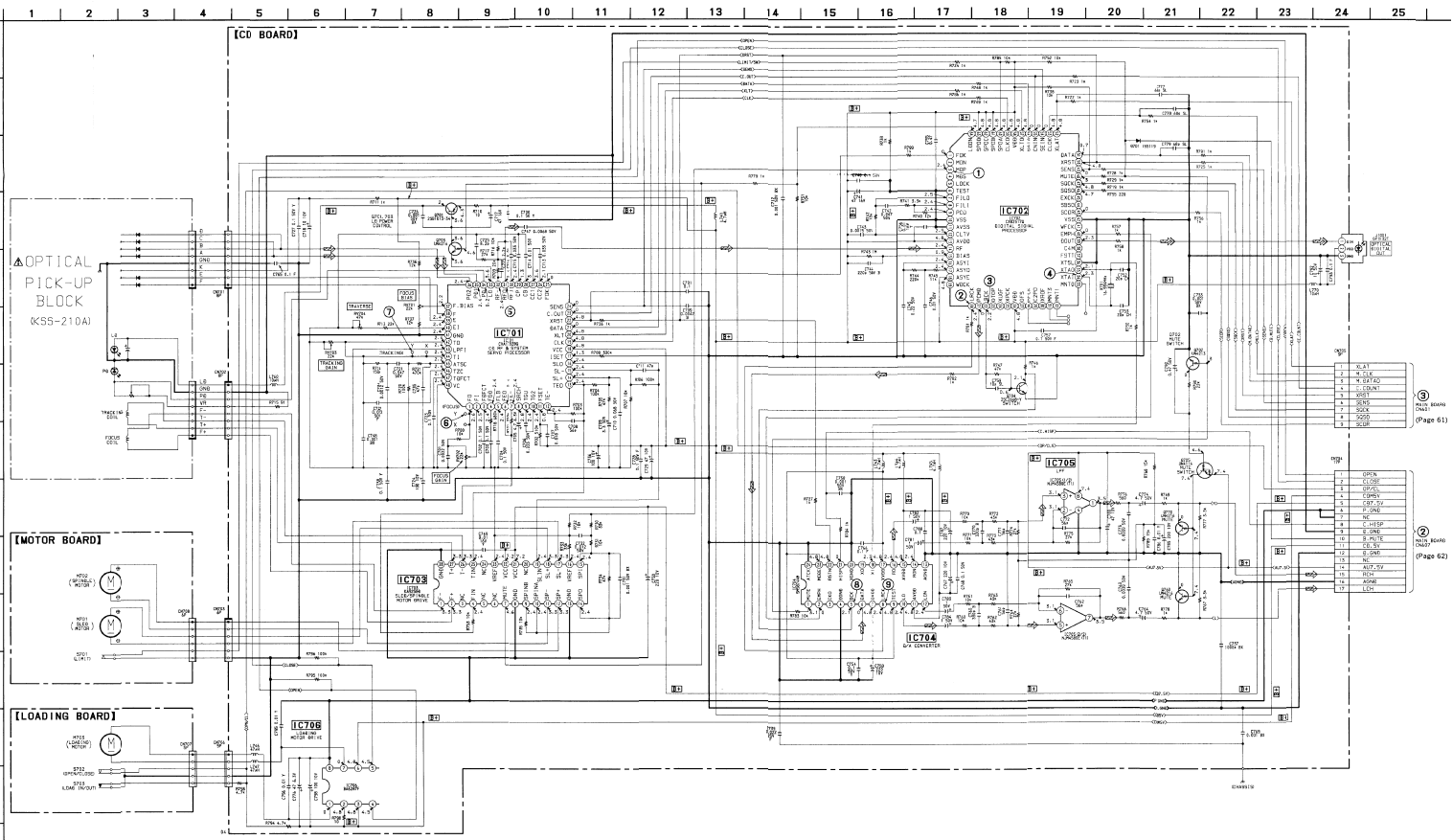
• Semiconductor Location

Ref. No.	Location
D701	C-11
IC701	D-6
IC702	D-9
IC703	G-7
IC704	E-10
IC705	F-10
IC706	F-5
J1001	B-10
Q701	F-7
Q702	F-8
Q703	F-8
Q704	D-9
Q705	F-9
Q760	F-9
Q770	F-9

Note :
• ○ : parts extracted from the component side.
• ■ : Pattern on the side which is seen.



5-8. SCHEMATIC DIAGRAM—CD SECTION— • Refer to page 66 for IC Block Diagrams.



Note:

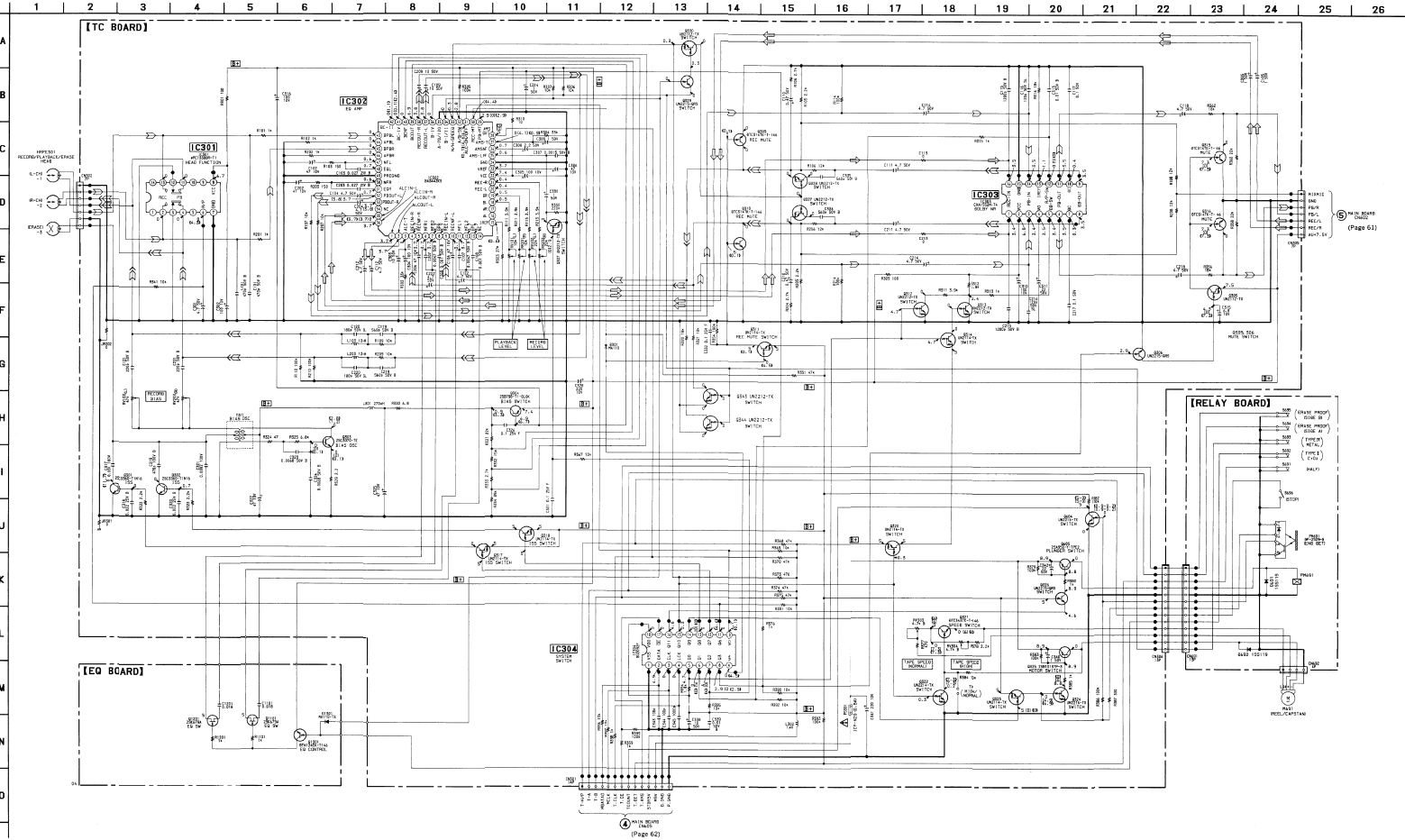
- All capacitors are in μF unless otherwise noted; pF : μF 50WV or less are not indicated except for electrolytic and tantalum.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise.

Note: The components identified by mark $\frac{1}{2}$ or dotted line with mark $\frac{1}{2}$ are critical for safety. Replace only with part number specified.

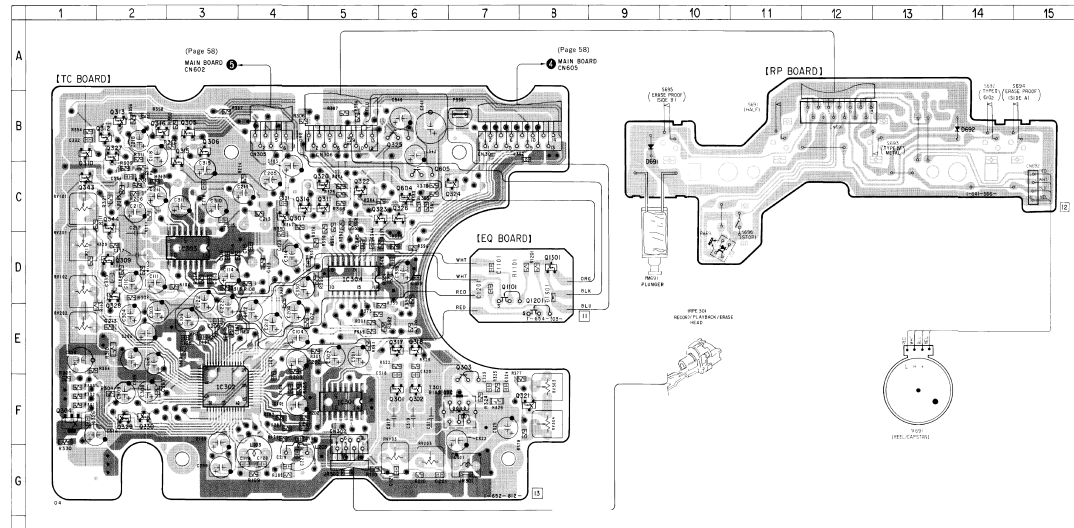
- [B1] : B+ Line
- [R] : adjustment for repair
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : CD STOP
- Voltages are taken with a VOM (1M Ω impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path
- digital out

5-9. SCHEMATIC DIAGRAM—DECK SECTION— • Refer to page 66 for IC Block Diagrams.

- Note:
- All capacitors are in μF unless otherwise noted. 0.01 μF 50V or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- Note: The components identified by mark $\frac{1}{2}$ or dotted line with mark $\frac{1}{2}$ are critical for safety. Replace only with part number specified.
- $\frac{1}{2}$: B+ Line
 - $\frac{1}{2}$: adjustment for repair.
 - Voltage is dc with respect to ground under no signal conditions.
 - no mark: PG
 - $\frac{1}{2}$: AND ON
 - $\frac{1}{2}$: REC
 - Voltages are taken with a VOM (input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
 - Signal path
 - FM
 - PG
 - REC



5.10. PRINTED WIRING BOARDS—DECK SECTION—



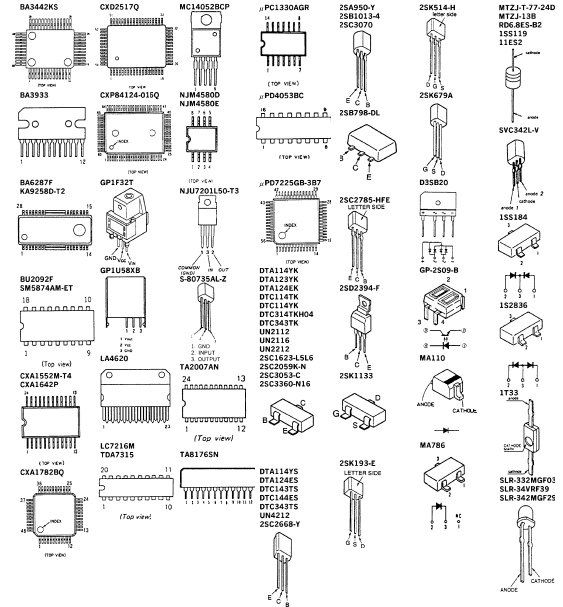
- **Semiconductor Location**

Ref. No.	Location
D301	D-4
D301	B-9
D692	B-14
D1301	D-8
IC301	F-5
IC302	F-3
IC303	D-3
IC304	D-5
PH691	D-10
Q301	F-6
Q302	F-6
Q303	F-7
Q304	F-1
Q305	B-3
Q306	B-3
Q307	C-4
Q309	D-2
Q310	B-1
Q311	C-5
Q312	B-2
Q313	B-2
Q314	C-4
Q315	B-3
Q316	B-2
Q317	E-6
Q318	C-6
Q320	F-8
Q321	F-8
Q322	C-5
Q323	C-5
Q324	C-7
Q325	B-6
Q326	C-6
Q327	B-2
Q328	D-2
Q329	F-2
Q330	F-2
Q343	C-1
Q344	C-2
Q604	C-6
Q605	C-6
Q1101	D-7
Q1201	D-8
Q1301	D-8

Note :

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Through hole.
- : indicates side identified with part number.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern on the rear side.

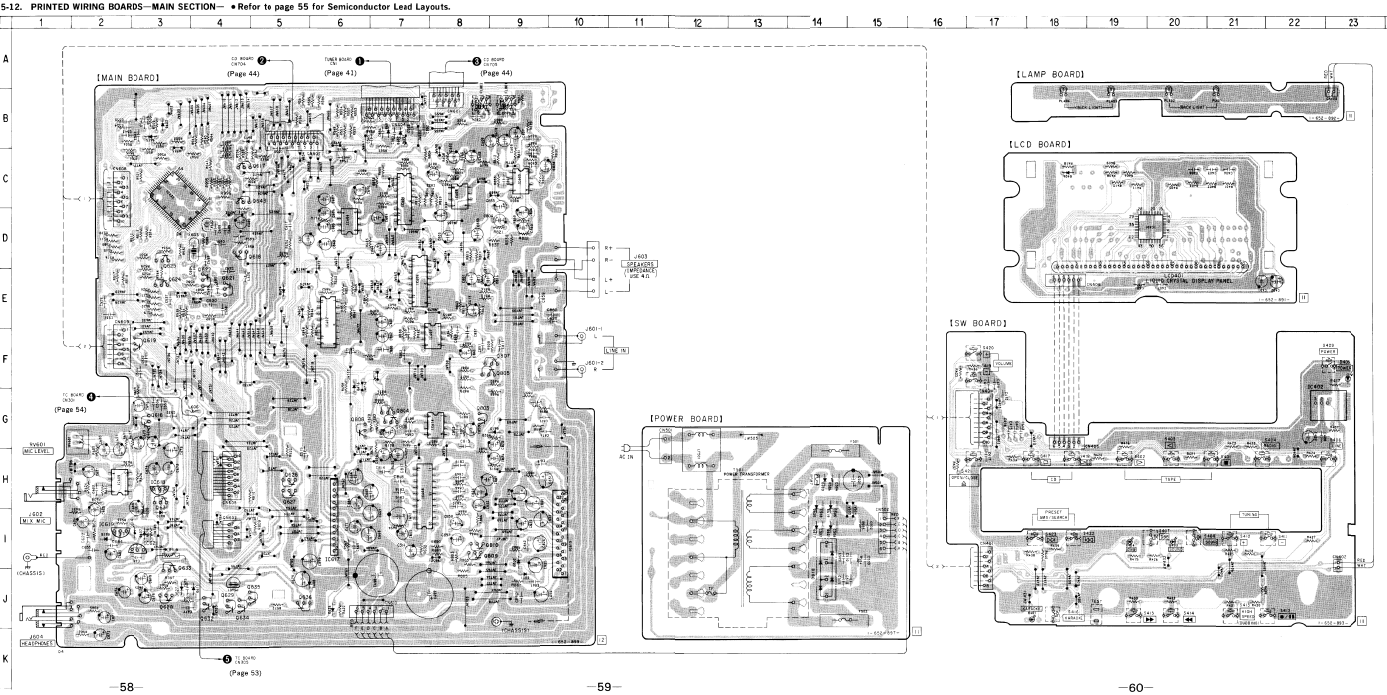
5-11. SEMICONDUCTOR LEAD LAYOUTS



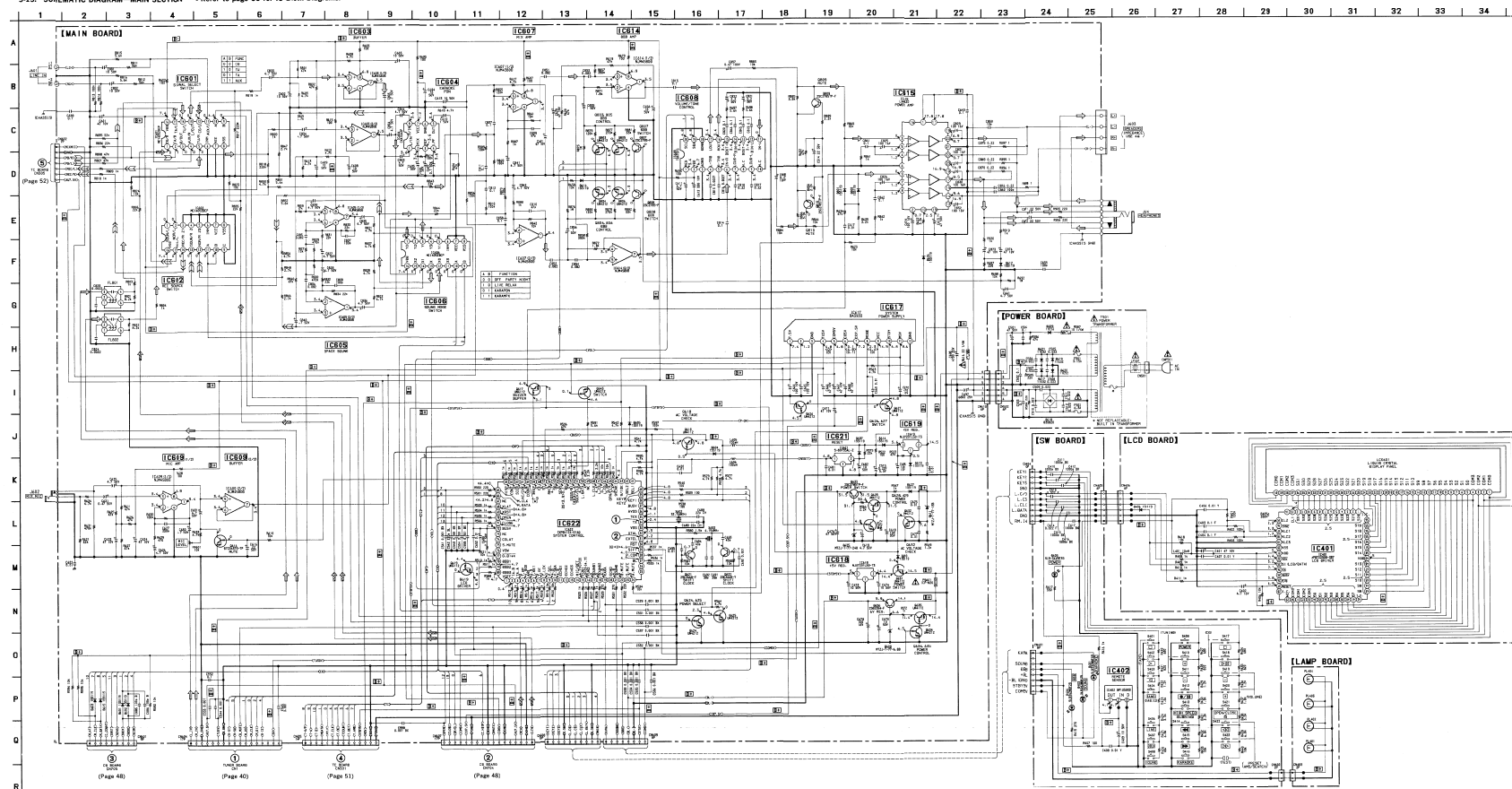
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D401	J18	IC607	F3
D403	I20	IC608	H7
D404	I19	IC609	H2
D406	C18	IC614	G3
D601	B7	IC615	I30
D602	B7	IC617	I6
D603	B3	IC618	H3
D604	E5	IC619	I2
D605	B4	IC621	I1
D607	I3	IC622	C3
D608	J5		
D609	H14	Q616	G3
D610	I3	Q617	G4
D611	J4	Q618	D4
D612	G9	Q619	F3
D613	I2	Q621	E4
D614	I3	Q622	E4
D615	B3	Q624	F3
D616	F6	Q625	D3
D617	I14	Q626	H5
D618	J14	Q627	H5
D619	H14	Q628	J3
D620	H14	Q629	J4
D621	I14	Q631	H3
D625	J3	Q632	J4
D626	J6	Q633	I2
D627	J3	Q634	J4
D801	J9	Q635	J4
D802	I9	Q636	J5
		Q643	G4
IC401	D19	Q803	G8
IC402	G22	Q804	G7
IC501	C7	Q805	F9
IC502	E6	Q806	G7
IC603	C8	Q807	F9
IC604	D6	Q808	G5
IC605	O9	Q809	I6
IC606	E7	Q810	I6

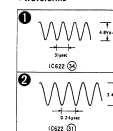
Note:
• : parts extracted from the component side.
• : Pattern on the side which is seen.



5-13. SCHEMATIC DIAGRAM—MAIN SECTION— • Refer to page 66 for IC Block Diagrams.










- Waveforms



Note :

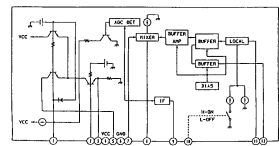
- Note 1:**
- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\text{pF}$ 50WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark or dotted line with mark  are critical for safety.
Replace only with part number specified.

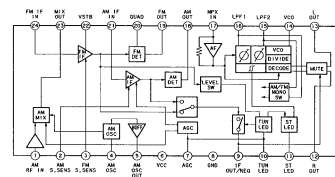
-  : Variable resistor.
-  : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- No mark: FM
- < : AM
- [] : PB (DECK)
- M : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10M Ω).
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path:
 -  : FM
 -  : PB
 -  : REC
 -  : CD

• IC Block Diagrams

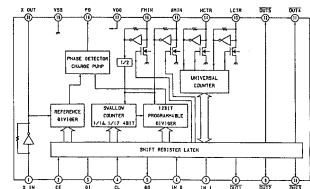
IC1 TAB176SN



IC2 TA2007AN

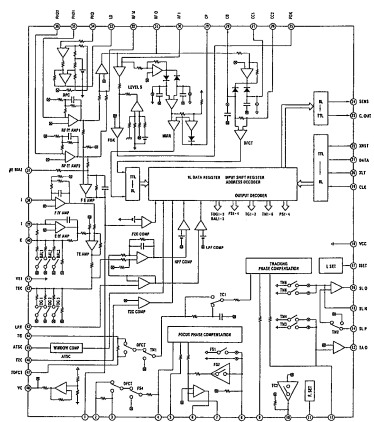


IC3 LC7216M-TP-T1

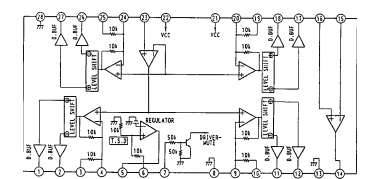


-66-

IC701 CXA1782BQ

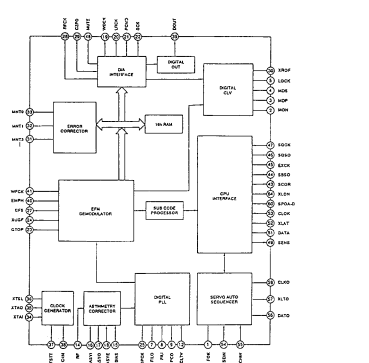


IC703 KA9258D

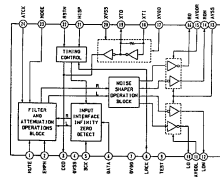


-67-

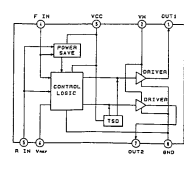
IC702 CXD2517Q



IC704 SM5874AM

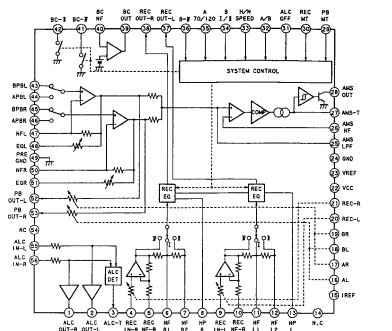


IC706 BA6287F

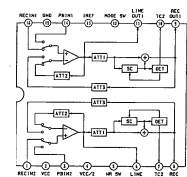


-68-

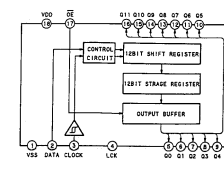
IC302 BA3442KS



IC303 CXA1552M-T4

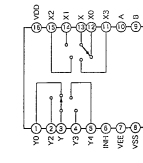


IC304 BU2092F

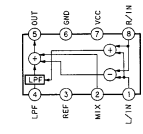


-69-

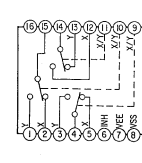
IC601, 606 MC14058CP



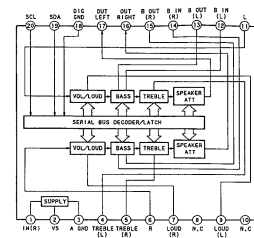
IC604 CXA1642P



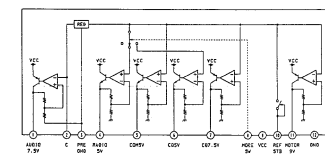
IC602 MC14058CP



IC608 TDA7315



IC617 BA3933



-70-

SECTION 6 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts

Example :

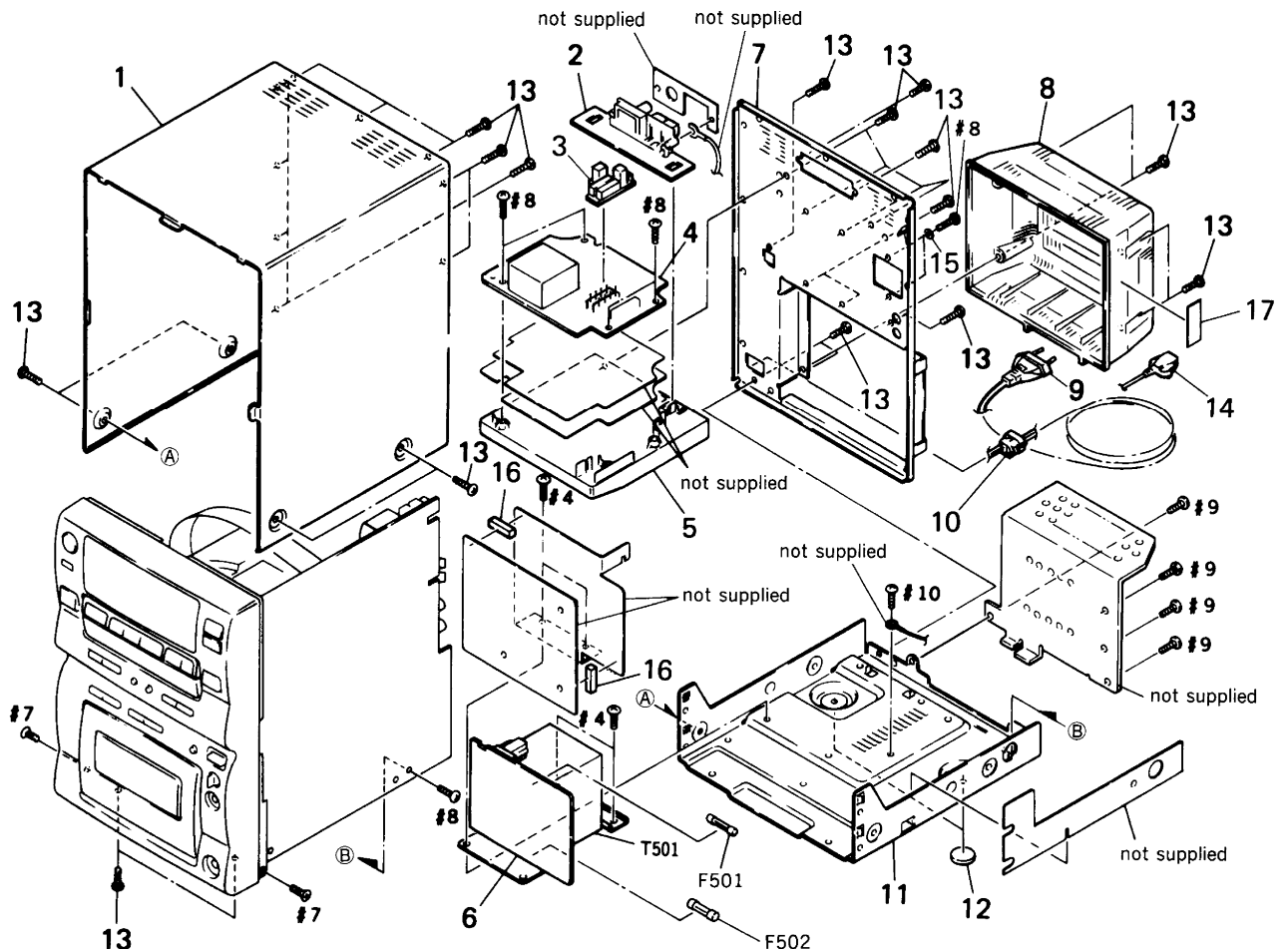
KNOB, BALANCE (WHITE)... (RED)

↑ ↑
Parts Color Cabinet's Color

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

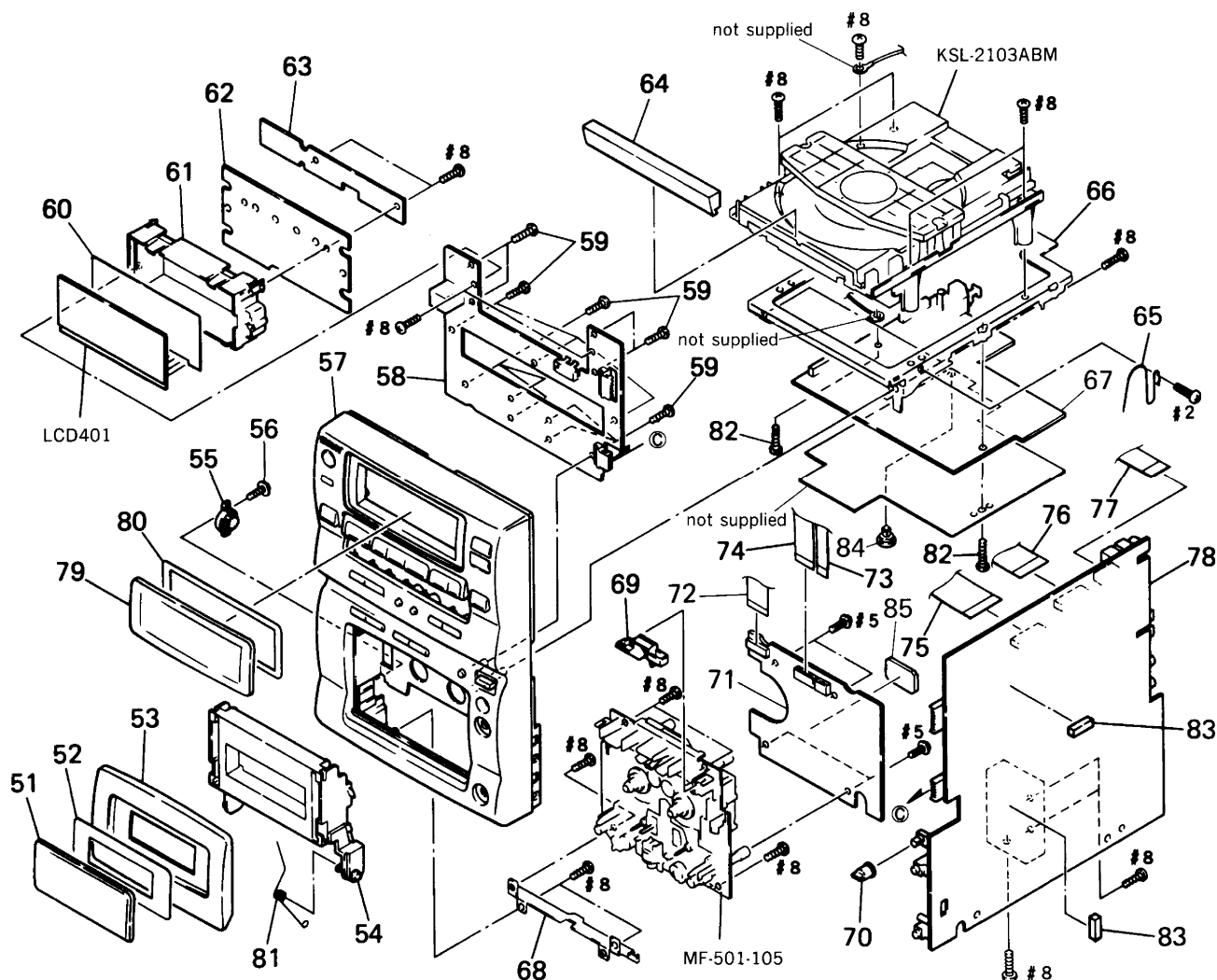
6-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
* 1	3-914-126-01	CASE (UPPER)	
* 2	1-652-894-11	ANT BOARD	
* 3	1-654-076-11	ANT COIL BOARD	
* 4	A-3269-703-A	TUNER BOARD, COMPLETE (AEP)	
* 4	A-3269-704-A	TUNER BOARD, COMPLETE (UK)	
* 5	3-914-153-01	CHASSIS (TUNE)	
* 6	1-652-897-11	POWER BOARD	
* 7	3-915-294-31	CASE (REAR) (AEP)	
* 7	3-915-294-61	CASE (REAR) (UK)	
8	3-914-125-01	COVER (HEAT SINK)	
Δ 9	1-575-651-11	CORD, POWER (AEP)	
10	3-703-244-11	BUSHING (2104), CORD	

Ref. No.	Part No.	Description	Remark
* 11	3-914-131-01	CASE (LOWER)	
12	3-940-657-01	FOOT (FELT)	
13	3-948-500-01	SCREW, BV (3X10) RING	
Δ 14	1-696-570-21	CORD, POWER (UK)	
15	3-919-169-01	WASHER, INSULATING	
16	9-911-841-XX	SPACER	
* 17	4-941-548-01	LABEL, CLASS (1)	
Δ F501	1-532-237-00	FUSE (3.15A)	
Δ F502	1-532-506-51	FUSE (6.3A) (UK)	
Δ F502	1-576-264-11	FUSE (6.3A) (AEP)	
Δ T501	1-426-872-11	TRANSFORMER, POWER (AEP)	
Δ T501	1-426-873-11	TRANSFORMER, POWER (UK)	

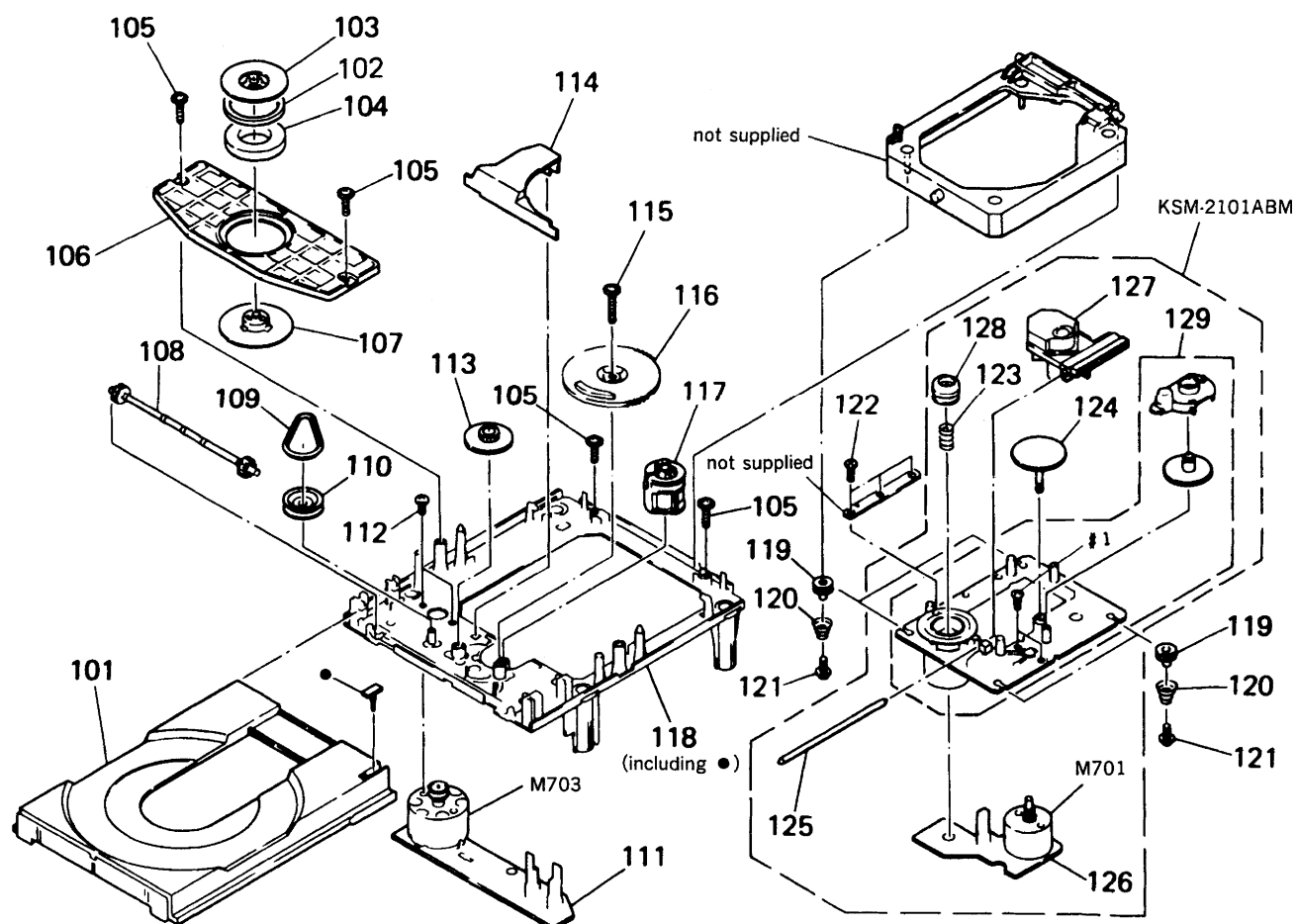
6-2. FRONT PANEL SECTION





Ref.No.	Part No.	Description	Remark
51	3-914-145-01	WINDOW (CASSETTE)	
52	3-914-146-01	SHEET (CASSETTE), ADHESIVE	
53	3-915-284-01	LID, CASSETTE	
54	X-3368-462-1	HOLDER ASSY, CASSETTE	
55	3-343-248-21	DAMPER (P), SMALL	
56	4-960-167-01	SCREW (3X8) (DIA. 10), +WH	
57	X-3369-261-1	PANEL ASSY, FRONT	
* 58	A-3269-674-A	SW BOARD, COMPLETE (AEP)	
* 58	A-3269-676-A	SW BOARD, COMPLETE (UK)	
59	4-931-757-41	SCREW (DIA. 2.6X10) (IT3B)	
60	3-914-152-01	ILLUMINATOR	
61	3-914-151-01	HOLDER (LCD)	
* 62	1-652-891-11	LCD BOARD	
* 63	1-652-892-11	LAMP BOARD	
64	3-915-280-01	LID (CD)	
65	3-916-002-01	SPRING (LEVER)	
* 66	3-914-147-01	CHASSIS (CD)	
* 67	A-3269-662-A	CD BOARD, COMPLETE (AEP)	
* 67	A-3269-666-A	CD BOARD, COMPLETE (UK)	
* 68	3-913-467-01	BRACKET (MD)	

Ref.No.	Part No.	Description	Remark
69	3-913-176-01	LEVER (EJECT)	
70	3-914-130-01	KNOB (VOL)	
* 71	A-3269-686-A	TC BOARD, COMPLETE (AEP)	
* 71	A-3269-688-A	TC BOARD, COMPLETE (UK)	
72	1-765-436-11	WIRE, PARALLEL (FFC) (14 CORE)	
73	1-765-437-11	WIRE, PARALLEL (FFC) (7 CORE)	
74	1-765-435-11	WIRE, PARALLEL (FFC) (13 CORE)	
75	1-765-640-11	WIRE, PARALLEL (FFC) (17 CORE)	
76	1-765-434-11	WIRE, PARALLEL (FFC) (17 CORE)	
* 77	1-766-695-11	WIRE, PARALLEL (FFC) (9 CORE)	
* 78	A-3269-667-A	MAIN BOARD, COMPLETE (AEP)	
* 78	A-3269-669-A	MAIN BOARD, COMPLETE (UK)	
79	3-914-128-01	WINDOW (LCD)	
80	3-914-129-01	SHEET (LCD), ADHESIVE	
81	3-914-133-01	SPRING (CASSETTE)	
82	3-325-679-31	SCREW, TAPPING +BV 3X14	
* 83	3-941-223-01	CUSHION (RS1), RUBBER	
84	3-531-576-01	RIVET	
* 85	A-3276-611-A	EQ BOARD, COMPLETE	
LCD401	1-810-513-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-3. CD SECTION
(LOADING SECTION : KSL-2103ABM)
(OPTICAL PICK-UP SECTION : KSM-2101ABM)

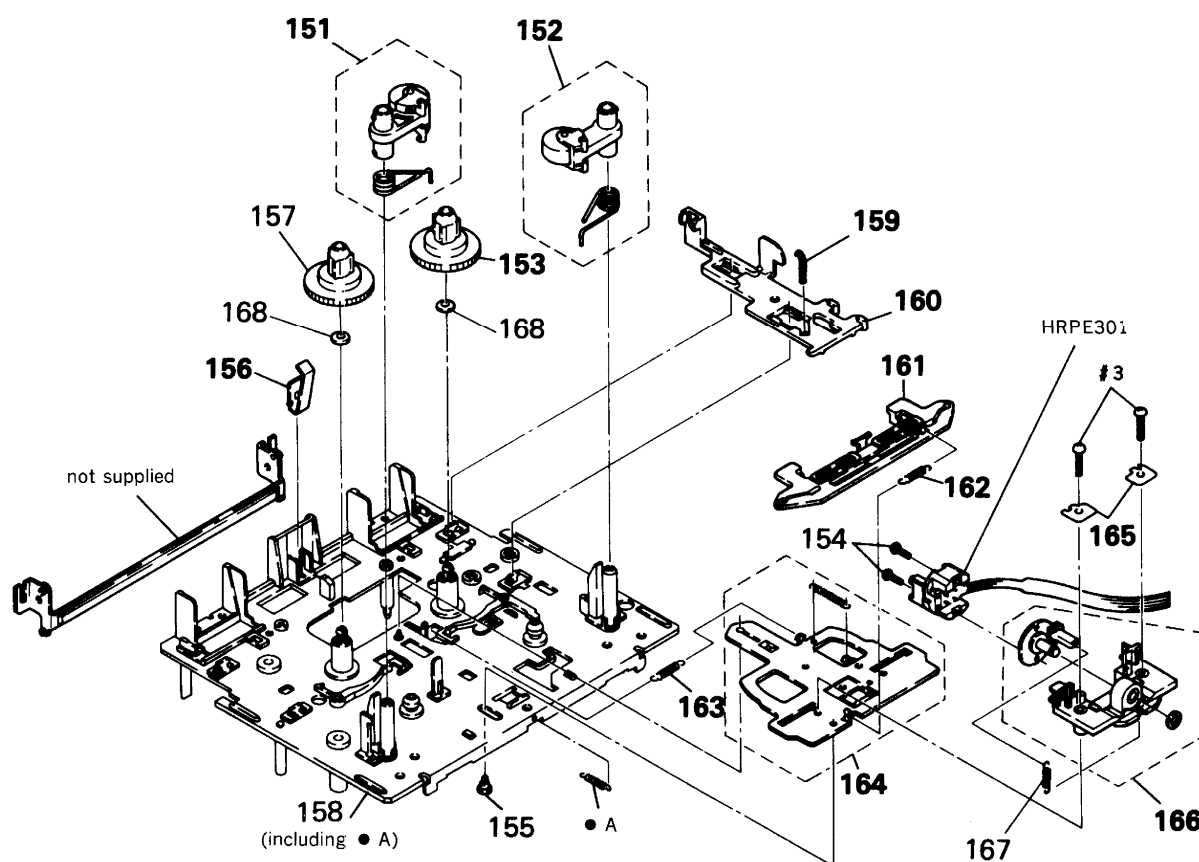


The components identified by mark  or dotted line with mark.  are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 101	2-626-654-01	TRAY (HG)	
102	2-625-541-02	DAMPER (S)	
* 103	2-625-537-01	YOKE (S), CHUCKING	
104	1-452-493-21	MAGNET	
105	2-626-294-01	SCREW (+ PTPWH) (2. 6X7)	
* 106	2-625-546-01	PLATE (S), CHUCKING	
107	2-625-548-01	PULLEY (S), CHUCKING	
* 108	2-625-535-01	GEAR (S), TRAY	
109	3-653-387-00	BELT, LM	
110	2-625-536-02	PULLEY (S), LOADING	
* 111	1-640-523-11	LOADING BOARD	
112	2-625-279-01	SCREW (+B2. 6X2. 5)	
113	2-625-274-02	GEAR (S), MIDWAY	
* 114	2-625-544-01	COVER (S), GEAR	
115	3-319-501-51	SCREW (+ PTPWH) (2. 6X16)	
* 116	2-625-547-01	GEAR (S), DRIVE	

Ref. No.	Part No.	Description	Remark
* 117	2-625-545-04	CAM (S), CONTROL	
* 118	2-625-552-06	CHASSIS (S), OUTSERT MAIN	
* 119	2-625-538-01	INSULATOR (S)	
120	2-625-539-01	SPRING (S)	
121	2-625-730-01	SCREW, SPACER	
122	2-641-386-01	SCREW (2X5), TAPPING (S)	
123	2-625-191-01	SPRING, COMPRESSION	
124	2-625-188-02	GEAR (A)	
125	4-917-565-01	SHAFT (S), SLED	
* 126	1-636-789-13	MOTOR BOARD	
△127	8-848-127-11	PICK-UP, OPTICAL KSS-210A	
128	2-625-187-01	RING (LO), CENTER	
129	X-2625-133-2	CHASSIS ASSY, TT (M702 SPINDLE)	
M701	X-2625-132-1	GEAR ASSY, MOTOR (SLED)	
M703	X-2625-117-1	MOTOR ASSY, LOADING	

6-4. MECHANISM DECK SECTION 1 (MF-501-105)

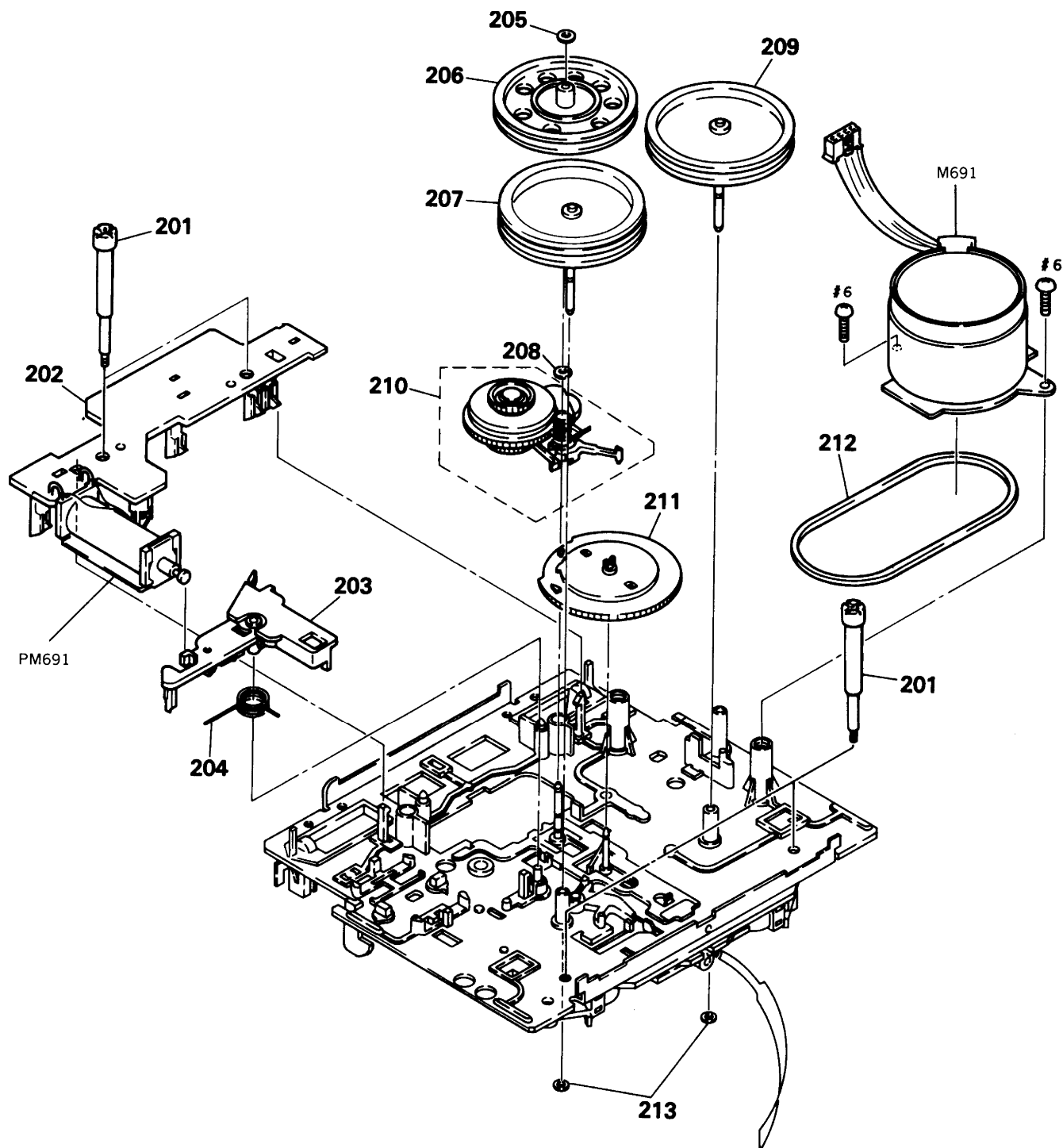


Ref. No.	Part No.	Description	Remark
151	X-3364-790-1	PINCH LEVER (R) ASSY	
152	X-3364-789-1	PINCH LEVER (N) ASSY	
153	X-3364-791-1	GEAR (REEL) ASSY	
154	3-316-938-51	SCREW (B1.4X6), TAPPING	
155	3-382-444-01	SCREW (STOPPER)	
156	3-384-106-01	DETENT, CASSETTE	
157	X-3368-350-1	GEAR (REEL S) ASSY	
* 158	X-3366-586-2	CHASSIS (DIVISION) ASSY	
159	3-377-670-01	SPRING, COMPRESSION	
160	3-377-709-01	LEVER (A), EJECT	
161	3-377-700-01	SLIDER (NR)	
162	3-377-666-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remark
163	3-377-673-01	SPRING, TENSION	
* 164	X-3364-792-1	BASE ASSY, HEAD	
* 165	3-384-356-01	SHIM (t=0.3)	
* 165	3-384-356-11	SHIM (t=0.35)	
* 165	3-384-356-21	SHIM (t=0.4)	
* 165	3-384-356-31	SHIM (t=0.45)	
* 165	3-384-356-41	SHIM (t=0.5)	
166	X-3365-822-1	GUIDE ASSY (Q), HEAD	
167	3-377-663-03	SPRING, TENSION	
168	3-906-038-01	WASHER	

HRPE301 1-543-991-11 HEAD, MAGNETIC (REC/PB/ERASE)

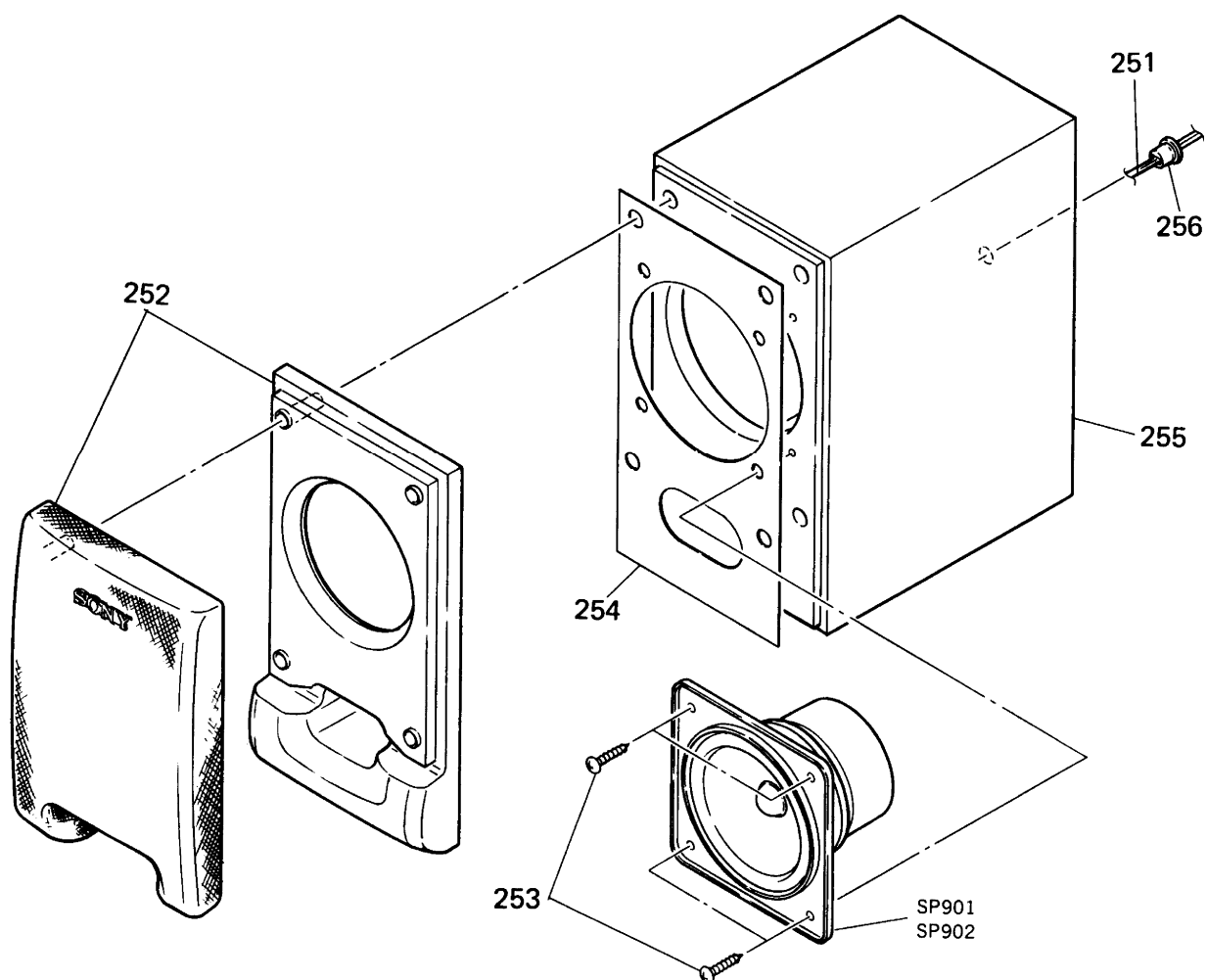
6-5. MECHANISM DECK SECTION 2
(MF-501-105)



Ref. No.	Part No.	Description	Remark
* 201	3-377-696-01	SUPPORT	
* 202	1-641-566-11	RELAY BOARD	
203	3-377-716-01	LEVER, TRIGGER	
204	3-377-687-01	SPRING (TRIGGER LEVER), TORSION	
205	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
206	3-377-706-01	PULLEY	
207	X-3365-789-1	FLYWHEEL (N) ASSY	
208	3-377-664-01	RING, RETAINING	

Ref. No.	Part No.	Description	Remark
209	X-3365-790-1	FLYWHEEL (R) ASSY	
210	X-3364-793-1	LEVER ASSY, FR	
211	3-377-798-01	GEAR (CAM)	
212	3-377-688-01	BELT	
213	3-343-358-12	RING, RETAINING	
M691	A-3263-138-A	MOTOR ASSY (REEL/CAPSTAN)	
PM691	1-454-595-11	SOLENOID, PLUNGER	

6-6. SPEAKER SECTION



Ref. No.	Part No.	Description	Remark
251	1-765-399-11	CORD (SPEAKER)	
252	X-3369-282-1	PANEL ASSY, SPEAKER	
253	4-874-614-21	SCREW (4) (3.5X14), TAPPING	
254	3-915-288-01	PACKING	

Ref. No.	Part No.	Description	Remark
255	3-915-287-01	BOX, SPEAKER	
256	4-870-003-00	CLIPPER, CORD	
SP901	1-504-611-11	SPEAKER (10CM) (L-CH)	
SP902	1-504-611-11	SPEAKER (10CM) (R-CH)	

SECTION 7 ELECTRICAL PARTS LIST

ANT

ANT COIL

CD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... uPA...: μ PA...
uPB...: μ PB... uPC...: μ PC... uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark		
*	1-652-894-11	ANT BOARD *****			
		< CAPACITOR >			
C97	1-162-306-11	CERAMIC	0.01uF	30%	16V
		< CONNECTOR >			
* CN7	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN8	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
		< DIODE >			
D21	8-719-911-19	DIODE 1SS119			
D22	8-719-911-19	DIODE 1SS119			
		< TERMINAL >			
TB1	1-537-489-21	TERMINAL BOARD (ANTENNA)			

*	1-654-076-11	ANT COIL BOARD *****			
		< CAPACITOR >			
C64	1-162-280-31	CERAMIC	82PF	10%	50V
		< CONNECTOR >			
* CN9	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN10	1-695-808-11	CONNECTOR, PC BOARD 8P			
* CN11	1-695-808-11	CONNECTOR, PC BOARD 8P			
		< COIL >			
L18	1-414-142-11	INDUCTOR	1uH		
L19	1-410-336-11	INDUCTOR	220uH		
L20	1-409-936-11	COIL, MW RF			
L21	1-409-937-11	COIL, LW RF			
		< RESISTOR >			
R63	1-249-416-11	CARBON	820	5%	1/4W

Ref. No.	Part No.	Description	Remark		
*	A-3269-662-A	CD BOARD, COMPLETE (AEP)			
*	A-3269-666-A	CD BOARD, COMPLETE (UK) *****			
		7-685-647-79 SCREW, TAPPING +BV 3X10			
		3-325-679-31 SCREW, TAPPING +BV 3X14			
*	3-914-147-01	CHASSIS (CD)			
		< CAPACITOR >			
C700	1-136-165-00	FILM	0.1uF	5%	50V
C701	1-130-475-00	MYLAR	0.0022uF	5%	50V
C702-704					
	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-131-375-00	TANTALUM	4.7uF	10%	10V
C706	1-136-159-00	FILM	0.033uF	5%	50V
C707	1-136-156-00	FILM	0.018uF	5%	50V
C708	1-162-217-31	CERAMIC	56PF	5%	50V
C709	1-126-962-11	ELECT	3.3uF	20%	50V
C710	1-136-495-11	FILM	0.068uF	5%	50V
C711	1-162-215-31	CERAMIC	47PF	5%	50V
C712	1-162-294-31	CERAMIC	0.001uF	10%	50V
C713	1-136-159-00	FILM	0.033uF	5%	50V
C714	1-136-153-00	FILM	0.01uF	5%	50V
C715	1-136-159-00	FILM	0.033uF	5%	50V
C716	1-136-153-00	FILM	0.01uF	5%	50V
C717	1-124-589-11	ELECT	47uF	20%	16V
C718	1-126-157-11	ELECT	10uF	20%	16V
C721	1-136-161-00	FILM	0.047uF	5%	50V
C722	1-136-157-00	FILM	0.022uF	5%	50V
C723	1-136-165-00	FILM	0.1uF	5%	50V
C724	1-124-584-00	ELECT	100uF	20%	10V
C725	1-162-198-31	CERAMIC	8.2PF	10%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-136-165-00	FILM	0.1uF	5%	50V
C728	1-164-159-11	CERAMIC	0.1uF		
C729	1-124-126-00	ELECT	47uF	20%	10V
C730	1-126-176-11	ELECT	220uF	20%	10V
C731	1-162-294-31	CERAMIC	0.001uF	10%	50V
C732	1-136-154-00	FILM	0.012uF	5%	50V
C733	1-162-294-31	CERAMIC	0.001uF	10%	50V

Ref. No.	Part No.	Description	Remark		
C734	1-130-472-00	MYLAR	0.0012uF	5%	50V
C735	1-162-215-31	CERAMIC	47PF	5%	50V
C736	1-124-443-00	ELECT	100uF	20%	10V
C737	1-162-294-31	CERAMIC	0.001uF	10%	50V
C738	1-136-165-00	FILM	0.1uF	5%	50V
C739	1-161-494-00	CERAMIC	0.022uF		25V
C740	1-136-165-00	FILM	0.1uF	5%	50V
C741	1-124-589-11	ELECT	47uF	20%	16V
C742	1-136-161-00	FILM	0.047uF	5%	50V
C743	1-130-473-00	MYLAR	0.0015uF	5%	50V
C744	1-162-286-31	CERAMIC	220PF	10%	50V
C745	1-136-169-00	FILM	0.22uF	5%	50V
C746	1-136-153-00	FILM	0.01uF	5%	50V
C747	1-130-481-00	MYLAR	0.0068uF	5%	50V
C748	1-162-294-31	CERAMIC	0.001uF	10%	50V
C749	1-162-306-11	CERAMIC	0.01uF	30%	16V
C750	1-126-176-11	ELECT	220uF	20%	10V
C752	1-162-206-31	CERAMIC	20PF	5%	50V
C753	1-162-206-31	CERAMIC	20PF	5%	50V
C754	1-164-159-11	CERAMIC	0.1uF		50V
C755	1-136-173-00	FILM	0.47uF	5%	50V
C756	1-162-306-11	CERAMIC	0.01uF	30%	16V
C757	1-164-159-11	CERAMIC	0.1uF		50V
C758	1-162-294-31	CERAMIC	0.001uF	10%	50V
C759	1-162-199-31	CERAMIC	10PF	5%	50V
C760	1-162-288-31	CERAMIC	330PF	10%	50V
C761	1-162-217-31	CERAMIC	56PF	5%	50V
C762	1-162-217-31	CERAMIC	56PF	5%	50V
C763	1-130-478-00	MYLAR	0.0039uF	5%	50V
C764	1-126-163-11	ELECT	4.7uF	20%	50V
C765	1-164-159-11	CERAMIC	0.1uF		50V
C766	1-164-159-11	CERAMIC	0.1uF		50V
C767	1-126-176-11	ELECT	220uF	20%	10V
C768	1-136-165-00	FILM	0.1uF	5%	50V
C769	1-162-294-31	CERAMIC	0.001uF	10%	50V
C770	1-162-288-31	CERAMIC	330PF	10%	50V
C771	1-162-217-31	CERAMIC	56PF	5%	50V
C772	1-162-217-31	CERAMIC	56PF	5%	50V
C773	1-130-478-00	MYLAR	0.0039uF	5%	50V
C774	1-126-163-11	ELECT	4.7uF	20%	50V
C775	1-162-191-31	CERAMIC	2.2PF	10%	50V
C776	1-124-126-00	ELECT	47uF	20%	10V
C777-779	1-162-219-31	CERAMIC	68PF	5%	50V
C780	1-124-126-00	ELECT	47uF	20%	10V
C781-784	1-126-160-11	ELECT	1uF	20%	50V
C785	1-126-176-11	ELECT	220uF	20%	10V
C786	1-162-306-11	CERAMIC	0.01uF	30%	16V

Ref. No.	Part No.	Description	Remark		
C787	1-126-176-11	ELECT	220uF	20%	10V
C788	1-136-165-00	FILM	0.1uF	5%	50V
C790	1-124-465-00	ELECT	0.47uF	20%	50V
C791	1-164-159-11	CERAMIC	0.1uF		50V
C792	1-124-907-11	ELECT	10uF	20%	50V
C793	1-164-159-11	CERAMIC	0.1uF		50V
C795	1-162-306-11	CERAMIC	0.01uF	30%	16V
C796	1-162-306-11	CERAMIC	0.01uF	30%	16V
C798	1-124-584-00	ELECT	100uF	20%	10V
< CONNECTOR >					
* CN701	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CN702	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN703	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
* CN704	1-750-422-11	CONNECTOR, FFC/FPC 17P			
CN705	1-750-414-11	CONNECTOR, FFC/FPC 9P			
CN706	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			
< DIODE >					
D701	8-719-911-19	DIODE 1SS119			
< IC >					
IC701	8-752-068-52	IC CXA1782BQ			
IC702	8-752-361-92	IC CXD2517Q			
IC703	8-759-250-33	IC KA9258D-T2			
IC704	8-759-196-57	IC SM5874AM-ET			
IC705	8-759-711-82	IC NJM4580E			
IC706	8-759-040-83	IC BA6287F			
J1001	8-749-921-12	IC GP1F32T (OPTICAL DIGITAL OUT)			
< COIL >					
L741	1-408-405-00	INDUCTOR	4.7uH		
L743-745	1-408-405-00	INDUCTOR	4.7uH		
L746	1-414-187-11	INDUCTOR	47uH		
L747	1-414-187-11	INDUCTOR	47uH		
L760	1-410-509-11	INDUCTOR	10uH		
L770	1-410-509-11	INDUCTOR	10uH		
< TRANSISTOR >					
Q701	8-729-801-84	TRANSISTOR	2SB1013-4		
Q702	8-729-900-89	TRANSISTOR	DTC144ES		
Q703	8-729-900-74	TRANSISTOR	DTC143TS		
Q704	8-729-266-83	TRANSISTOR	2SC2668-Y		
Q705	8-729-902-80	TRANSISTOR	DTA114YS		
Q760	8-729-900-74	TRANSISTOR	DTC143TS		
Q770	8-729-900-74	TRANSISTOR	DTC143TS		

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
< RESISTOR >						R760	1-249-429-11	CARBON	10K	5%	1/4W
R700	1-249-429-11	CARBON	10K	5%	1/4W	R761	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-247-887-00	CARBON	220K	5%	1/4W	R762	1-247-870-11	CARBON	43K	5%	1/4W
R702	1-247-896-11	CARBON	510K	5%	1/4W	R763	1-247-870-11	CARBON	43K	5%	1/4W
R703	1-249-441-11	CARBON	100K	5%	1/4W	R764	1-249-434-11	CARBON	27K	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/4W	R765	1-249-434-11	CARBON	27K	5%	1/4W
R705	1-249-437-11	CARBON	47K	5%	1/4W	R766	1-249-414-11	CARBON	560	5%	1/4W
R706	1-249-441-11	CARBON	100K	5%	1/4W	R767	1-249-423-11	CARBON	3.3K	5%	1/4W
R707	1-249-432-11	CARBON	18K	5%	1/4W	R768	1-249-431-11	CARBON	15K	5%	1/4W
R708	1-247-891-00	CARBON	330K	5%	1/4W	R769	1-249-417-11	CARBON	1K	5%	1/4W
R709	1-247-862-11	CARBON	20K	5%	1/4W	R770	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-393-11	CARBON	10	5%	1/4W	R771	1-249-429-11	CARBON	10K	5%	1/4W
R711	1-249-417-11	CARBON	1K	5%	1/4W	R772	1-247-870-11	CARBON	43K	5%	1/4W
R713	1-249-433-11	CARBON	22K	5%	1/4W	R773	1-247-870-11	CARBON	43K	5%	1/4W
R714	1-247-883-00	CARBON	150K	5%	1/4W	R774	1-249-434-11	CARBON	27K	5%	1/4W
R715	1-247-806-11	CARBON	91	5%	1/4W	R775	1-249-434-11	CARBON	27K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W	R776	1-249-414-11	CARBON	560	5%	1/4W
R717	1-249-434-11	CARBON	27K	5%	1/4W	R777	1-249-423-11	CARBON	3.3K	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W	R778	1-249-417-11	CARBON	1K	5%	1/4W
R719	1-249-417-11	CARBON	1K	5%	1/4W	R779	1-249-417-11	CARBON	1K	5%	1/4W
R720	1-249-441-11	CARBON	100K	5%	1/4W	R781	1-249-417-11	CARBON	1K	5%	1/4W
R721	1-247-895-00	CARBON	470K	5%	1/4W	R782	1-249-417-11	CARBON	1K	5%	1/4W
R722-729						R783	1-249-429-11	CARBON	10K	5%	1/4W
	1-249-417-11	CARBON	1K	5%	1/4W	R784	1-249-417-11	CARBON	1K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W	R785	1-249-429-11	CARBON	10K	5%	1/4W
R731	1-249-433-11	CARBON	22K	5%	1/4W	R786	1-249-417-11	CARBON	1K	5%	1/4W
R732	1-249-429-11	CARBON	10K	5%	1/4W	R789	1-249-431-11	CARBON	15K	5%	1/4W
R733	1-249-435-11	CARBON	33K	5%	1/4W	R790	1-249-433-11	CARBON	22K	5%	1/4W
R734	1-249-437-11	CARBON	47K	5%	1/4W	R791	1-249-417-11	CARBON	1K	5%	1/4W
R736	1-249-430-11	CARBON	12K	5%	1/4W	R793	1-249-425-11	CARBON	4.7K	5%	1/4W
R737	1-249-430-11	CARBON	12K	5%	1/4W	R794	1-249-425-11	CARBON	4.7K	5%	1/4W
R738	1-249-429-11	CARBON	10K	5%	1/4W	R795	1-249-441-11	CARBON	100K	5%	1/4W
R739	1-249-417-11	CARBON	1K	5%	1/4W	R796	1-249-441-11	CARBON	100K	5%	1/4W
R740	1-247-881-00	CARBON	120K	5%	1/4W	R798	1-249-393-11	CARBON	10	5%	1/4W
R741	1-249-423-11	CARBON	3.3K	5%	1/4W	R799	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-429-11	CARBON	10K	5%	1/4W	< VARIABLE RESISTOR >					
R743	1-247-903-00	CARBON	1M	5%	1/4W	RV701	1-230-497-11	RES, ADJ, CARBON	22K		
R744	1-247-887-00	CARBON	220K	5%	1/4W	RV702	1-230-497-11	RES, ADJ, CARBON	22K		
R745	1-247-856-00	CARBON	11K	5%	1/4W	RV703	1-241-765-11	RES, ADJ, CARBON	22K		
R746	1-249-417-11	CARBON	1K	5%	1/4W	RV704	1-238-019-11	RES, ADJ, CARBON	47K		
R747	1-249-437-11	CARBON	47K	5%	1/4W	< VIBRATOR >					
R748-750						X701	1-567-908-11	VIBRATOR, CRYSTAL	(16.9344MHz)		
	1-249-417-11	CARBON	1K	5%	1/4W	*****					
R751-753											
	1-249-429-11	CARBON	10K	5%	1/4W						
R754	1-249-417-11	CARBON	1K	5%	1/4W						
R755	1-249-409-11	CARBON	220	5%	1/4W						
R756-758											
	1-249-417-11	CARBON	1K	5%	1/4W						

EQ	LAMP	LCD	LOADING	MAIN
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Ref.No.	Part No.	Description	Remark		
*	A-3276-611-A	EQ BOARD, COMPLETE	*****		
		< CAPACITOR >			
C1101	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C1201	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
		< DIODE >			
D1301	8-719-404-46	DIODE MA110			
		< TRANSISTOR >			
Q1101	8-729-012-83	TRANSISTOR	2SK679A		
Q1201	8-729-012-83	TRANSISTOR	2SK679A		
Q1301	8-729-901-05	TRANSISTOR	DTA124EK		
		< RESISTOR >			
R1101	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1201	1-216-049-00	METAL CHIP	1K	5%	1/10W

*	1-652-892-11	LAMP BOARD	*****		
	7-685-647-79	SCREW, TAPPING +BV 3X10			
		< CONNECTOR >			
* CN403	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
		< PILOT LAMP >			
	PL401-404	1-518-688-11 LAMP, PILOT	*****		
*	1-652-891-11	LCD BOARD	*****		
	3-914-151-01	HOLDER (LCD)			
	3-914-152-01	ILLUMINATOR			
		< CAPACITOR >			
C401	1-124-589-11	ELECT	47uF	20%	16V
C402	1-126-163-11	ELECT	4.7uF	20%	50V
C403	1-164-159-11	CERAMIC	0.1uF		50V
C404	1-164-159-11	CERAMIC	0.1uF		50V
C406	1-162-306-11	CERAMIC	0.01uF	30%	16V
C407	1-162-306-11	CERAMIC	0.01uF	30%	16V
		< CONNECTOR >			
CN406	1-766-248-11	CONNECTOR, BOARD TO BOARD 6P			

Ref.No.	Part No.	Description	Remark		
< DIODE >					
D406	8-719-911-19	DIODE	1SS119		
< IC >					
IC401	8-759-153-90	IC	uPD7225GB-3B7		
< COIL >					
L401	1-410-509-11	INDUCTOR	10uH		
< LIQUID CRYSTAL DISPLAY >					
LCD401	1-810-513-11	DISPLAY PANEL, LIQUID CRYSTAL			
< RESISTOR >					
R401	1-247-881-00	CARBON	120K	5%	1/4W
R402	1-249-441-11	CARBON	100K	5%	1/4W
R403	1-249-441-11	CARBON	100K	5%	1/4W
R405	1-247-891-00	CARBON	330K	5%	1/4W
R406	1-249-429-11	CARBON	10K	5%	1/4W
R408-411					
	1-249-417-11	CARBON	1K	5%	1/4W
R418	1-249-429-11	CARBON	10K	5%	1/4W

*	1-640-523-11	LOADING BOARD	*****		
< CONNECTOR >					
CN707	1-564-721-11	PIN, CONNECTOR (SMALL TYPE)	5P		
< SWITCH >					
S702	1-692-667-11	SWITCH, LEAF (OPEN/CLOSE)			
S703	1-692-667-11	SWITCH, LEAF (LOAD IN/OUT)			

*	A-3269-667-A MAIN BOARD, COMPLETE (AEP)				
*	A-3269-669-A MAIN BOARD, COMPLETE (UK)				

	7-685-647-79	SCREW, TAPPING +BV	3X10		
< CAPACITOR >					
C514	1-124-916-11	ELECT	22uF	20%	63V
C515	1-125-507-11	DOUBLE LAYERS	0.22F		5.5V
C529	1-162-294-31	CERAMIC	0.001uF	10%	50V
C531-538					
	1-162-294-31	CERAMIC	0.001uF	10%	50V
C541	1-162-294-31	CERAMIC	0.001uF	10%	50V
C542	1-162-286-31	CERAMIC	220PF	10%	50V

Ref. No.	Part No.	Description	Remark		
C543-545					
	1-162-294-31	CERAMIC	0.001uF	10%	50V
C550	1-162-294-31	CERAMIC	0.001uF	10%	50V
C552	1-164-159-11	CERAMIC	0.1uF		50V
C553-555					
	1-162-294-31	CERAMIC	0.001uF	10%	50V
C601	1-124-126-00	ELECT	47uF	20%	10V
C602-604					
	1-124-907-11	ELECT	10uF	20%	50V
C605	1-124-903-11	ELECT	1uF	20%	50V
C606	1-124-903-11	ELECT	1uF	20%	50V
C607	1-124-463-00	ELECT	0.1uF	20%	50V
C608	1-124-907-11	ELECT	10uF	20%	50V
C609	1-124-907-11	ELECT	10uF	20%	50V
C610	1-124-903-11	ELECT	1uF	20%	50V
C611	1-124-927-11	ELECT	4.7uF	20%	100V
C612	1-124-604-00	ELECT	330uF	20%	10V
C613	1-124-907-11	ELECT	10uF	20%	50V
C614	1-126-101-11	ELECT	100uF	20%	16V
C615	1-124-910-11	ELECT	47uF	20%	50V
C616	1-128-131-11	ELECT	22uF	20%	50V
C617	1-162-306-11	CERAMIC	0.01uF	30%	16V
C618	1-124-122-11	ELECT	100uF	20%	50V
C619	1-124-927-11	ELECT	4.7uF	20%	100V
C620	1-162-306-11	CERAMIC	0.01uF	30%	16V
C621	1-124-902-00	ELECT	0.47uF	20%	50V
C622	1-162-306-11	CERAMIC	0.01uF	30%	16V
C623	1-124-126-00	ELECT	47uF	20%	10V
C624	1-124-126-00	ELECT	47uF	20%	10V
C625	1-124-927-11	ELECT	4.7uF	20%	100V
C626	1-124-927-11	ELECT	4.7uF	20%	100V
C627	1-162-288-31	CERAMIC	330PF	10%	50V
C628	1-164-159-11	CERAMIC	0.1uF		50V
C629	1-124-126-00	ELECT	47uF	20%	10V
C630	1-126-163-11	ELECT	4.7uF	20%	50V
C631	1-126-163-11	ELECT	4.7uF	20%	50V
C640	1-136-165-00	FILM	0.1uF	5%	50V
C651	1-124-126-00	ELECT	47uF	20%	10V
C652	1-162-306-11	CERAMIC	0.01uF	30%	16V
C655	1-162-282-31	CERAMIC	100PF	10%	50V
C656	1-124-907-11	ELECT	10uF	20%	50V
C661	1-124-927-11	ELECT	4.7uF	20%	100V
C664	1-124-443-00	ELECT	100uF	20%	10V
C665	1-124-443-00	ELECT	100uF	20%	10V
C666-668					
	1-124-126-00	ELECT	47uF	20%	10V
C669	1-162-306-11	CERAMIC	0.01uF	30%	16V
C670	1-124-472-11	ELECT	470uF	20%	10V
C671	1-124-126-00	ELECT	47uF	20%	10V

Ref. No.	Part No.	Description	Remark		
C673	1-124-907-11	ELECT	10uF	20%	50V
C674	1-124-907-11	ELECT	10uF	20%	50V
C675	1-162-306-11	CERAMIC	0.01uF	30%	16V
C676	1-124-910-11	ELECT	47uF	20%	50V
C677	1-162-306-11	CERAMIC	0.01uF	30%	16V
C678	1-126-101-11	ELECT	100uF	20%	16V
C679	1-124-907-11	ELECT	10uF	20%	50V
C680	1-124-925-11	ELECT	2.2uF	20%	100V
C681	1-162-306-11	CERAMIC	0.01uF	30%	16V
C682	1-124-907-11	ELECT	10uF	20%	50V
C683	1-124-443-00	ELECT	100uF	20%	10V
C684	1-162-306-11	CERAMIC	0.01uF	30%	16V
C688	1-102-959-00	CERAMIC	22PF	5%	50V
C689	1-102-959-00	CERAMIC	22PF	5%	50V
C690	1-162-294-31	CERAMIC	0.001uF	10%	50V
C691	1-102-965-00	CERAMIC	39PF	5%	50V
C692	1-102-965-00	CERAMIC	39PF	5%	50V
C693	1-102-966-00	CERAMIC	43PF	5%	50V
C694	1-102-966-00	CERAMIC	43PF	5%	50V
C695	1-162-306-11	CERAMIC	0.01uF	30%	16V
C697	1-124-771-00	ELECT	6800uF	20%	25V
C698	1-124-564-11	ELECT	4700uF	20%	25V
C801	1-124-907-11	ELECT	10uF	20%	50V
C802	1-124-907-11	ELECT	10uF	20%	50V
C803	1-124-927-11	ELECT	4.7uF	20%	100V
C804	1-124-927-11	ELECT	4.7uF	20%	100V
C805	1-130-494-11	MYLAR	0.082uF	5%	50V
C806	1-130-494-11	MYLAR	0.082uF	5%	50V
C807	1-162-282-31	CERAMIC	100PF	10%	50V
C808	1-162-282-31	CERAMIC	100PF	10%	50V
C809	1-162-215-31	CERAMIC	47PF	5%	50V
C810	1-162-215-31	CERAMIC	47PF	5%	50V
C811-814					
	1-130-495-00	MYLAR	0.1uF	5%	50V
C815	1-130-476-00	MYLAR	0.0027uF	5%	50V
C816	1-130-476-00	MYLAR	0.0027uF	5%	50V
C817	1-136-169-00	FILM	0.22uF	5%	50V
C818	1-136-169-00	FILM	0.22uF	5%	50V
C819	1-130-495-00	MYLAR	0.1uF	5%	50V
C820	1-130-495-00	MYLAR	0.1uF	5%	50V
C821	1-124-925-11	ELECT	2.2uF	20%	100V
C822	1-124-925-11	ELECT	2.2uF	20%	100V
C823	1-130-475-00	MYLAR	0.0022uF	5%	50V
C824	1-130-475-00	MYLAR	0.0022uF	5%	50V
C825	1-126-101-11	ELECT	100uF	20%	16V
C826	1-126-101-11	ELECT	100uF	20%	16V
C827	1-124-927-11	ELECT	4.7uF	20%	100V
C828	1-124-927-11	ELECT	4.7uF	20%	100V

MAIN

Ref. No.	Part No.	Description	Remark
C829-832	1-126-101-11	ELECT	100uF 20% 16V
C833-836	1-124-927-11	ELECT	4. 7uF 20% 100V
C837	1-136-165-00	FILM	0. 1uF 5% 50V
C838	1-136-165-00	FILM	0. 1uF 5% 50V
C839-844	1-124-927-11	ELECT	4. 7uF 20% 100V
C845	1-130-495-00	MYLAR	0. 1uF 5% 50V
C846	1-130-495-00	MYLAR	0. 1uF 5% 50V
C851-854	1-130-494-11	MYLAR	0. 082uF 5% 50V
C855	1-124-903-11	ELECT	1uF 20% 50V
C856	1-124-903-11	ELECT	1uF 20% 50V
C857	1-124-790-11	ELECT	0. 47uF 20% 100V
C858	1-124-790-11	ELECT	0. 47uF 20% 100V
C859	1-162-282-31	CERAMIC	100PF 10% 50V
C860	1-162-282-31	CERAMIC	100PF 10% 50V
C861	1-130-495-00	MYLAR	0. 1uF 5% 50V
C862	1-130-495-00	MYLAR	0. 1uF 5% 50V
C869	1-136-169-00	FILM	0. 22uF 5% 50V
C870	1-136-169-00	FILM	0. 22uF 5% 50V
C871	1-124-916-11	ELECT	22uF 20% 63V
C872	1-124-916-11	ELECT	22uF 20% 63V
C873	1-124-126-00	ELECT	47uF 20% 10V
C874	1-124-126-00	ELECT	47uF 20% 10V
C875	1-136-169-00	FILM	0. 22uF 5% 50V
C876	1-136-169-00	FILM	0. 22uF 5% 50V
C877	1-162-302-11	CERAMIC	0. 0022uF 30% 16V
C878	1-162-302-11	CERAMIC	0. 0022uF 30% 16V
C885	1-162-282-31	CERAMIC	100PF 10% 50V
C886	1-162-282-31	CERAMIC	100PF 10% 50V
< CONNECTOR >			
* CN601	1-563-586-11	CONNECTOR, FLEXIBLE 9P	
CN602	1-568-826-11	CONNECTOR, FFC/FPC 7P	
* CN604	1-750-422-11	CONNECTOR, FFC/FPC 17P	
CN605	1-563-591-11	CONNECTOR, FLEXIBLE 14P	
* CN607	1-750-422-11	CONNECTOR, FFC/FPC 17P	
CN608	1-568-321-11	SOCKET, CONNECTOR 10P	
CN609	1-568-319-11	SOCKET, CONNECTOR 8P	
* CN610	1-569-977-11	PIN, CONNECTOR (PC BOARD) 6P	
< DIODE >			
D601	8-719-911-19	DIODE	1SS119
D602	8-719-911-19	DIODE	1SS119
D603	8-719-911-19	DIODE	1SS119
D604	8-719-911-19	DIODE	1SS119
D605	8-719-911-19	DIODE	1SS119

Ref. No.	Part No.	Description	Remark
D607	8-719-911-19	DIODE	1SS119
D608	8-719-109-97	DIODE	RD6, 8ES-B2
D610	8-719-911-19	DIODE	1SS119
D611	8-719-921-88	DIODE	MTZJ-13B
D612	8-719-911-19	DIODE	1SS119
D613	8-719-911-19	DIODE	1SS119
D614	8-719-911-19	DIODE	1SS119
D615	8-719-911-19	DIODE	1SS119
D616	8-719-911-19	DIODE	1SS119
D625	8-719-924-32	DIODE	MTZJ-T-77-24D
D626	8-719-911-19	DIODE	1SS119
D627	8-719-911-19	DIODE	1SS119
D801	8-719-911-19	DIODE	1SS119
D802	8-719-911-19	DIODE	1SS119
< LPF >			
FL801	1-239-503-11	FILTER, LOW PASS	
FL802	1-239-503-11	FILTER, LOW PASS	
< IC >			
IC601	8-759-000-48	IC	MC14052BCP
IC602	8-759-140-53	IC	uPD4053BC
IC603	8-759-711-35	IC	NJM4580D
IC604	8-752-057-50	IC	CXA1642P
IC605	8-759-711-35	IC	NJM4580D
IC606	8-759-000-48	IC	MC14052BCP
IC607	8-759-711-35	IC	NJM4580D
IC608	8-759-264-31	IC	TDA7315
IC609	8-759-711-35	IC	NJM4580D
IC614	8-759-711-35	IC	NJM4580D
IC615	8-759-822-51	IC	LA4620
IC617	8-759-080-77	IC	BA3933
IC618	8-759-173-39	IC	NJU7201L50-T3
IC619	8-759-173-39	IC	NJU7201L50-T3
IC621	8-759-196-15	IC	S-80735AL-Z
IC622	8-752-859-74	IC	CXP84124-016Q
< JACK >			
J601	1-764-593-21	JACK 2P (LINE IN)	
J602	1-568-267-21	JACK (MIX MIC)	
J603	1-537-240-31	TERMINAL BOARD (CHECKER PIN) (SPEAKERS)	
J604	1-568-267-11	JACK (HEADPHONES)	
< COIL >			
L605	1-410-521-11	INDUCTOR	100uH
L606	1-410-521-11	INDUCTOR	100uH

Ref. No.	Part No.	Description	Remark
< IC LINK >			
△PS601	1-532-685-00	LINK, IC ICP-N20 (0.8A)	
< TRANSISTOR >			
Q616	8-729-905-50	TRANSISTOR DTC343TS	
Q617	8-729-900-63	TRANSISTOR DTA124ES	
Q618	8-729-900-63	TRANSISTOR DTA124ES	
Q619	8-729-900-63	TRANSISTOR DTA124ES	
Q621	8-729-266-83	TRANSISTOR 2SC2668-Y	
Q622	8-729-266-83	TRANSISTOR 2SC2668-Y	
Q624	8-729-422-73	TRANSISTOR UN4212	
Q625	8-729-422-73	TRANSISTOR UN4212	
Q626	8-729-422-73	TRANSISTOR UN4212	
Q627	8-729-900-63	TRANSISTOR DTA124ES	
Q628	8-729-900-63	TRANSISTOR DTA124ES	
Q629	8-729-422-73	TRANSISTOR UN4212	
Q631	8-729-900-63	TRANSISTOR DTA124ES	
Q632	8-729-422-73	TRANSISTOR UN4212	
Q633	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q634	8-729-422-73	TRANSISTOR UN4212	
Q635	8-729-900-63	TRANSISTOR DTA124ES	
Q636	8-729-018-99	TRANSISTOR 2SD2394-F	
Q643	8-729-422-73	TRANSISTOR UN4212	
Q803	8-729-422-73	TRANSISTOR UN4212	
Q804	8-729-422-73	TRANSISTOR UN4212	
Q805	8-729-422-73	TRANSISTOR UN4212	
Q806	8-729-422-73	TRANSISTOR UN4212	
Q807	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q808	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q809	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q810	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< RESISTOR >			
R500	1-249-409-11	CARBON 220 5% 1/4W	
R501	1-249-409-11	CARBON 220 5% 1/4W	
R503-506	1-249-417-11	CARBON 1K 5% 1/4W	
R510-518	1-249-417-11	CARBON 1K 5% 1/4W	
R519-521	1-249-429-11	CARBON 10K 5% 1/4W	
R522	1-247-807-11	CARBON 100 5% 1/4W	
R523	1-249-437-11	CARBON 47K 5% 1/4W	
R525-528	1-249-417-11	CARBON 1K 5% 1/4W	
R529	1-249-410-11	CARBON 270 5% 1/4W	
R531	1-249-410-11	CARBON 270 5% 1/4W	
R532	1-249-409-11	CARBON 220 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R534	1-249-429-11	CARBON 10K 5% 1/4W	
R535-537	1-249-417-11	CARBON 1K 5% 1/4W	
R538-540	1-247-807-11	CARBON 100 5% 1/4W	
R541	1-249-425-11	CARBON 4.7K 5% 1/4W	
R542	1-249-425-11	CARBON 4.7K 5% 1/4W	
R543	1-249-417-11	CARBON 1K 5% 1/4W	
R544	1-249-429-11	CARBON 10K 5% 1/4W	
R545	1-249-429-11	CARBON 10K 5% 1/4W	
R546	1-249-421-11	CARBON 2.2K 5% 1/4W	
R547	1-249-421-11	CARBON 2.2K 5% 1/4W	
R548-561	1-249-417-11	CARBON 1K 5% 1/4W	
R563	1-249-425-11	CARBON 4.7K 5% 1/4W	
R564	1-249-425-11	CARBON 4.7K 5% 1/4W	
R566	1-249-421-11	CARBON 2.2K 5% 1/4W	
R567	1-249-417-11	CARBON 1K 5% 1/4W	
R569	1-249-418-11	CARBON 1.2K 5% 1/4W	
R572	1-249-417-11	CARBON 1K 5% 1/4W	
R575	1-249-433-11	CARBON 22K 5% 1/4W	
R577-579	1-249-425-11	CARBON 4.7K 5% 1/4W	
R580	1-249-419-11	CARBON 1.5K 5% 1/4W	
R581	1-249-429-11	CARBON 10K 5% 1/4W	
R582	1-249-429-11	CARBON 10K 5% 1/4W	
R588	1-249-417-11	CARBON 1K 5% 1/4W	
R591	1-249-426-11	CARBON 5.6K 5% 1/4W	
R593-595	1-249-429-11	CARBON 10K 5% 1/4W	
R596	1-249-437-11	CARBON 47K 5% 1/4W	
R597	1-249-441-11	CARBON 100K 5% 1/4W	
R602	1-247-807-11	CARBON 100 5% 1/4W	
R603	1-247-807-11	CARBON 100 5% 1/4W	
R605	1-247-807-11	CARBON 100 5% 1/4W	
R606	1-249-437-11	CARBON 47K 5% 1/4W	
R607	1-247-807-11	CARBON 100 5% 1/4W	
R608	1-249-425-11	CARBON 4.7K 5% 1/4W	
R609	1-249-425-11	CARBON 4.7K 5% 1/4W	
R610	1-249-429-11	CARBON 10K 5% 1/4W	
R611	1-249-437-11	CARBON 47K 5% 1/4W	
R612	1-249-425-11	CARBON 4.7K 5% 1/4W	
R613	1-249-425-11	CARBON 4.7K 5% 1/4W	
R614	1-249-441-11	CARBON 100K 5% 1/4W	
R615	1-247-807-11	CARBON 100 5% 1/4W	
△R616	1-212-865-00	FUSIBLE 22 5% 1/4W F	
R617	1-249-425-11	CARBON 4.7K 5% 1/4W	
R618	1-249-425-11	CARBON 4.7K 5% 1/4W	
R619	1-249-437-11	CARBON 47K 5% 1/4W	
R620	1-249-437-11	CARBON 47K 5% 1/4W	

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark
R621	1-249-433-11	CARBON	22K 5% 1/4W
R622	1-249-423-11	CARBON	3.3K 5% 1/4W
R623	1-249-429-11	CARBON	10K 5% 1/4W
R624	1-249-425-11	CARBON	4.7K 5% 1/4W
R625-627	1-249-437-11	CARBON	47K 5% 1/4W
R628	1-247-807-11	CARBON	100 5% 1/4W
R629	1-249-413-11	CARBON	470 5% 1/4W
R630	1-249-441-11	CARBON	100K 5% 1/4W
R631	1-247-895-00	CARBON	470K 5% 1/4W
R632	1-249-437-11	CARBON	47K 5% 1/4W
R633	1-249-425-11	CARBON	4.7K 5% 1/4W
R634	1-249-437-11	CARBON	47K 5% 1/4W
R635	1-249-421-11	CARBON	2.2K 5% 1/4W
R658	1-249-429-11	CARBON	10K 5% 1/4W
R670	1-247-807-11	CARBON	100 5% 1/4W
R687	1-249-409-11	CARBON	220 5% 1/4W
R688	1-249-429-11	CARBON	10K 5% 1/4W
R692	1-247-903-00	CARBON	1M 5% 1/4W
R694	1-247-807-11	CARBON	100 5% 1/4W
R697	1-249-426-11	CARBON	5.6K 5% 1/4W
R698	1-249-426-11	CARBON	5.6K 5% 1/4W
R801	1-249-437-11	CARBON	47K 5% 1/4W
R802	1-249-437-11	CARBON	47K 5% 1/4W
R803	1-249-417-11	CARBON	1K 5% 1/4W
R804	1-249-417-11	CARBON	1K 5% 1/4W
R805	1-249-433-11	CARBON	22K 5% 1/4W
R806	1-249-433-11	CARBON	22K 5% 1/4W
R807	1-249-437-11	CARBON	47K 5% 1/4W
R808	1-249-437-11	CARBON	47K 5% 1/4W
R809	1-249-417-11	CARBON	1K 5% 1/4W
R810	1-249-417-11	CARBON	1K 5% 1/4W
R811	1-249-438-11	CARBON	56K 5% 1/4W
R812	1-249-438-11	CARBON	56K 5% 1/4W
R813	1-249-441-11	CARBON	100K 5% 1/4W
R814	1-249-441-11	CARBON	100K 5% 1/4W
R815	1-249-426-11	CARBON	5.6K 5% 1/4W
R816	1-249-426-11	CARBON	5.6K 5% 1/4W
R817	1-247-887-00	CARBON	220K 5% 1/4W
R818	1-247-887-00	CARBON	220K 5% 1/4W
R819	1-249-417-11	CARBON	1K 5% 1/4W
R820	1-249-417-11	CARBON	1K 5% 1/4W
R821	1-249-425-11	CARBON	4.7K 5% 1/4W
R822	1-249-425-11	CARBON	4.7K 5% 1/4W
R823	1-249-429-11	CARBON	10K 5% 1/4W
R824	1-249-429-11	CARBON	10K 5% 1/4W
R827	1-249-429-11	CARBON	10K 5% 1/4W
R829	1-247-895-00	CARBON	470K 5% 1/4W
R830	1-247-895-00	CARBON	470K 5% 1/4W

Ref. No.	Part No.	Description	Remark
R831-836	1-249-433-11	CARBON	22K 5% 1/4W
R837	1-249-425-11	CARBON	4.7K 5% 1/4W
R838	1-249-425-11	CARBON	4.7K 5% 1/4W
R841	1-249-429-11	CARBON	10K 5% 1/4W
R842	1-249-429-11	CARBON	10K 5% 1/4W
R843	1-249-433-11	CARBON	22K 5% 1/4W
R844	1-249-433-11	CARBON	22K 5% 1/4W
R845-848	1-249-422-11	CARBON	2.7K 5% 1/4W
R851	1-249-426-11	CARBON	5.6K 5% 1/4W
R852	1-249-426-11	CARBON	5.6K 5% 1/4W
R853	1-249-425-11	CARBON	4.7K 5% 1/4W
R854	1-249-425-11	CARBON	4.7K 5% 1/4W
R855	1-247-881-00	CARBON	120K 5% 1/4W
R856	1-247-881-00	CARBON	120K 5% 1/4W
R857	1-247-893-11	CARBON	390K 5% 1/4W
R858	1-247-893-11	CARBON	390K 5% 1/4W
R859	1-249-437-11	CARBON	47K 5% 1/4W
R860	1-249-437-11	CARBON	47K 5% 1/4W
R861	1-249-417-11	CARBON	1K 5% 1/4W
R862	1-249-417-11	CARBON	1K 5% 1/4W
R865	1-249-429-11	CARBON	10K 5% 1/4W
R866	1-249-429-11	CARBON	10K 5% 1/4W
R869	1-249-441-11	CARBON	100K 5% 1/4W
R870	1-249-441-11	CARBON	100K 5% 1/4W
R871	1-249-420-11	CARBON	1.8K 5% 1/4W
R872	1-249-420-11	CARBON	1.8K 5% 1/4W
R875	1-247-903-00	CARBON	1M 5% 1/4W
R876	1-247-903-00	CARBON	1M 5% 1/4W
R877	1-247-889-00	CARBON	270K 5% 1/4W
R878	1-247-889-00	CARBON	270K 5% 1/4W
R879	1-247-881-00	CARBON	120K 5% 1/4W
R880	1-247-881-00	CARBON	120K 5% 1/4W
R881	1-249-435-11	CARBON	33K 5% 1/4W
R882	1-249-435-11	CARBON	33K 5% 1/4W
R883	1-249-429-11	CARBON	10K 5% 1/4W
R884	1-249-429-11	CARBON	10K 5% 1/4W
R885	1-249-424-11	CARBON	3.9K 5% 1/4W
R886	1-249-424-11	CARBON	3.9K 5% 1/4W
R887	1-249-417-11	CARBON	1K 5% 1/4W
R888	1-249-417-11	CARBON	1K 5% 1/4W
R889	1-249-421-11	CARBON	2.2K 5% 1/4W
R890	1-249-421-11	CARBON	2.2K 5% 1/4W
R895-898	1-249-381-11	CARBON	1 5% 1/4W
R905	1-247-811-00	CARBON	150 5% 1/4W
R906	1-247-811-00	CARBON	150 5% 1/4W
R909	1-249-441-11	CARBON	100K 5% 1/4W

MAIN

MOTOR

POWER

RELAY

Ref. No.	Part No.	Description	Remark		
R910	1-249-441-11	CARBON	100K	5%	1/4W
R919	1-249-417-11	CARBON	1K	5%	1/4W
R920	1-249-417-11	CARBON	1K	5%	1/4W
R921	1-249-428-11	CARBON	8.2K	5%	1/4W
R922	1-249-428-11	CARBON	8.2K	5%	1/4W
R995	1-249-425-11	CARBON	4.7K	5%	1/4W
R996	1-249-425-11	CARBON	4.7K	5%	1/4W
< VARIABLE RESISTOR >					
RV601	1-223-672-11	RES, VAR, CARBON 10K (MIC LEVEL)			
< VIBRATOR >					
X602	1-760-105-11	VIBRATOR, CRYSTAL (32.768kHz)			
X603	1-579-901-11	OSCILLATOR, CERAMIC (4.1944MHz)			

*	1-636-789-13	MOTOR BOARD			

< CONNECTOR >					
CN708	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
< SWITCH >					
S701	1-572-085-11	SWITCH, LEAF (LIMIT)			

*	1-652-897-11	POWER BOARD			

	1-533-233-11	HOLDER, FUSE			
< CAPACITOR >					
C501	1-124-910-11	ELECT	47uF	20%	50V
C502-504	1-164-159-11	CERAMIC	0.1uF		50V
C505-512	1-101-005-00	CERAMIC	22000PF		50V
< CONNECTOR >					
CN501	1-564-321-00	PIN, CONNECTOR 2P			
* CN502	1-569-977-11	PIN, CONNECTOR (PC BOARD) 6P			
< DIODE >					
D609	8-719-200-82	DIODE	11ES2		
D617	8-719-200-82	DIODE	11ES2		
D618	8-719-500-33	DIODE	D3SB20		
D619	8-719-200-82	DIODE	11ES2		
D620	8-719-200-82	DIODE	11ES2		
D621	8-719-200-82	DIODE	11ES2		

Ref. No.	Part No.	Description	Remark		
< FUSE >					
△F501	1-532-237-00	FUSE (3. 15A)			
△F502	1-532-506-51	FUSE (6. 3A) (UK)			
△F502	1-532-246-11	FUSE (6. 3A) (AEP)			
< LINE FILTER >					
△LF501	1-424-150-11	TRANSFORMER, LINE FILTER			
< RESISTOR >					
R584	1-249-433-11	CARBON	22K	5%	1/4W
R585	1-249-433-11	CARBON	22K	5%	1/4W
R586	1-249-437-11	CARBON	47K	5%	1/4W
△R587	1-219-112-11	FUSIBLE	10	5%	1/4W F

*	1-641-566-11	RELAY BOARD			

*	3-380-110-01	HOLDER, PHOTO			
< CONNECTOR >					
* CN691	1-695-374-31	PIN, CONNECTOR (PC BOARD) 13P			
* CN692	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
< DIODE >					
D691	8-719-911-19	DIODE	1SS119		
D692	8-719-911-19	DIODE	1SS119		
< PHOTO INTERRUPTER >					
PH691	8-719-939-11	PHOTO INTERRUPTER	GP-2S09-B		
< SWITCH >					
S691	1-572-248-11	SWITCH, LEAF (HALF)			
S692	1-572-248-11	SWITCH, LEAF (TYPE II CrO2)			
S693	1-572-248-11	SWITCH, LEAF (TYPE IV METAL)			
S694	1-572-248-11	SWITCH, LEAF (ERASE PROOF) (SIDE A)			
S695	1-572-248-11	SWITCH, LEAF (ERASE PROOF) (SIDE B)			
S696	1-692-163-11	SWITCH, MICRO (STOP)			

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
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*	A-3269-674-A	SW BOARD, COMPLETE (AEP)	
*	A-3269-676-A	SW BOARD, COMPLETE (UK)	

< CAPACITOR >

C408	1-162-306-11	CERAMIC	0.01uF	30%	16V
C409	1-126-157-11	ELECT	10uF	20%	16V

C410-412

	1-162-294-31	CERAMIC	0.001uF	10%	50V
C413	1-161-494-00	CERAMIC	0.022uF		25V
C414	1-161-494-00	CERAMIC	0.022uF		25V

C415-417

	1-162-294-31	CERAMIC	0.001uF	10%	50V
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< CONNECTOR >

*	CN401	1-568-320-11 PLUG, CONNECTOR 8P	
*	CN402	1-564-704-11 PIN, CONNECTOR (SMALL TYPE) 2P	
*	CN404	1-568-322-11 PLUG, CONNECTOR 10P	
	CN405	1-766-247-11 CONNECTOR, BOARD TO BOARD 6P	

< DIODE >

D401	8-719-048-87	LED SLR-332MGF03 (KARAOKE)
D403	8-719-048-88	LED SLR-342MGF29 (SOUND)
D404	8-719-048-88	LED SLR-342MGF29 (DBB)
D405	8-719-987-04	LED SLR-34VRF39 (POWER)

< IC >

IC402	8-749-923-11	IC GP1U58XB
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< RESISTOR >

R407	1-247-807-31	CARBON	100	5%	1/4W
R415	1-249-410-11	CARBON	270	5%	1/4W
R416	1-249-417-11	CARBON	1K	5%	1/4W
R417	1-249-411-11	CARBON	330	5%	1/4W
R420	1-249-415-11	CARBON	680	5%	1/4W

R421	1-249-416-11	CARBON	820	5%	1/4W
R422	1-249-418-11	CARBON	1.2K	5%	1/4W
R423	1-249-420-11	CARBON	1.8K	5%	1/4W
R424	1-249-423-11	CARBON	3.3K	5%	1/4W
R425	1-249-427-11	CARBON	6.8K	5%	1/4W

R426	1-249-432-11	CARBON	18K	5%	1/4W
R427	1-249-415-11	CARBON	680	5%	1/4W
R428	1-249-416-11	CARBON	820	5%	1/4W
R429	1-249-418-11	CARBON	1.2K	5%	1/4W
R430	1-249-420-11	CARBON	1.8K	5%	1/4W

R431	1-249-423-11	CARBON	3.3K	5%	1/4W
R432	1-249-427-11	CARBON	6.8K	5%	1/4W
R433	1-249-432-11	CARBON	18K	5%	1/4W
R434	1-249-415-11	CARBON	680	5%	1/4W

Ref. No.	Part No.	Description	Remark
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R435	1-249-416-11	CARBON	820	5%	1/4W
R436	1-249-418-11	CARBON	1.2K	5%	1/4W
R437	1-249-420-11	CARBON	1.8K	5%	1/4W
R438	1-249-423-11	CARBON	3.3K	5%	1/4W
R439	1-249-427-11	CARBON	6.8K	5%	1/4W

R440	1-249-432-11	CARBON	18K	5%	1/4W
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< SWITCH >

S401	1-692-444-11	SWITCH, KEY BOARD (TAPE ■)
S402	1-692-444-11	SWITCH, KEY BOARD (TAPE ▷)
S403	1-692-444-11	SWITCH, KEY BOARD (TAPE ◁)
S404	1-692-444-11	SWITCH, KEY BOARD (RADIO)
S406	1-692-444-11	SWITCH, KEY BOARD (LINE)

S407	1-692-444-11	SWITCH, KEY BOARD (DBB)
S408	1-692-444-11	SWITCH, KEY BOARD (SOUND)
S409	1-692-444-11	SWITCH, KEY BOARD (POWER)
S410	1-692-444-11	SWITCH, KEY BOARD (TUNING +)
S411	1-692-444-11	SWITCH, KEY BOARD (TUNING -)

S412	1-692-444-11	SWITCH, KEY BOARD (●/II)
S413	1-692-444-11	SWITCH, KEY BOARD (HIGH SPEED DUBBING)
S414	1-692-444-11	SWITCH, KEY BOARD (▶▶)
S415	1-692-444-11	SWITCH, KEY BOARD (◀◀)
S416	1-692-444-11	SWITCH, KEY BOARD (KARAOKE)

S417	1-692-444-11	SWITCH, KEY BOARD (CD □)
S418	1-692-444-11	SWITCH, KEY BOARD (CD ▷□)
S419	1-692-444-11	SWITCH, KEY BOARD (VOLUME -)
S420	1-692-444-11	SWITCH, KEY BOARD (VOLUME +)
S421	1-692-444-11	SWITCH, KEY BOARD (OPEN/CLOSE △)

S422	1-692-444-11	SWITCH, KEY BOARD (PRESET AMS/SEARCH ⏮)
S423	1-692-444-11	SWITCH, KEY BOARD (PRESET AMS/SEARCH ⏭)

*	A-3269-686-A	TC BOARD, COMPLETE (AEP)
*	A-3269-688-A	TC BOARD, COMPLETE (UK)

*	7-685-647-79	SCREW, TAPPING +BV 3X10
	3-913-467-01	BRACKET (MD)
	7-682-902-21	SCREW +PWH 2.6X6

< CAPACITOR >

C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-124-126-00	ELECT	47uF	20%	10V
C103	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C104	1-124-927-11	ELECT	4.7uF	20%	100V
C105	1-124-903-11	ELECT	1uF	20%	50V

C106	1-124-126-00	ELECT	47uF	20%	10V
C107	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C108	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-124-907-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description	Remark		
C110	1-124-902-00	ELECT	0.47uF	20%	50V
C111	1-124-927-11	ELECT	4.7uF	20%	100V
C112	1-124-927-11	ELECT	4.7uF	20%	100V
C113	1-216-295-00	METAL CHIP	0 5%	1/10W	
C114	1-124-927-11	ELECT	4.7uF	20%	100V
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C116	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C117	1-130-495-00	MYLAR	0.1uF	5%	50V
C118	1-124-927-11	ELECT	4.7uF	20%	100V
C119	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C120	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C121	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C122	1-124-927-11	ELECT	4.7uF	20%	100V
C201	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C202	1-124-126-00	ELECT	47uF	20%	10V
C203	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C204	1-124-927-11	ELECT	4.7uF	20%	100V
C205	1-124-903-11	ELECT	1uF	20%	50V
C206	1-124-126-00	ELECT	47uF	20%	10V
C207	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C208	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C209	1-124-907-11	ELECT	10uF	20%	50V
C210	1-124-902-00	ELECT	0.47uF	20%	50V
C211	1-124-927-11	ELECT	4.7uF	20%	100V
C212	1-124-927-11	ELECT	4.7uF	20%	100V
C213	1-216-295-00	METAL CHIP	0 5%	1/10W	
C214	1-124-927-11	ELECT	4.7uF	20%	100V
C215	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C216	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C217	1-130-495-00	MYLAR	0.1uF	5%	50V
C218	1-124-927-11	ELECT	4.7uF	20%	100V
C219	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C220	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C221	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C222	1-124-927-11	ELECT	4.7uF	20%	100V
C301	1-124-927-11	ELECT	4.7uF	20%	100V
C302	1-124-443-00	ELECT	100uF	20%	10V
C303	1-124-907-11	ELECT	10uF	20%	50V
C304	1-124-443-00	ELECT	100uF	20%	10V
C305	1-124-443-00	ELECT	100uF	20%	10V
C306	1-124-126-00	ELECT	47uF	20%	10V
C307	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C308	1-124-925-11	ELECT	2.2uF	20%	100V
C309	1-124-903-11	ELECT	1uF	20%	50V
C310	1-124-443-00	ELECT	100uF	20%	10V
C311	1-126-233-11	ELECT	22uF	20%	50V
C313	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C314	1-124-903-11	ELECT	1uF	20%	50V
C315	1-124-239-00	ELECT	6.9uF	20%	10V

Ref. No.	Part No.	Description	Remark		
C316	1-124-443-00	ELECT	100uF	20%	10V
C317	1-137-575-11	FILM	0.001uF	5%	100V
C318	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C319	1-137-574-11	FILM	470PF	5%	100V
C320	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C321	1-137-576-11	FILM	0.0082uF	5%	100V
C322	1-124-126-00	ELECT	47uF	20%	10V
C323	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C324	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C325	1-124-126-00	ELECT	47uF	20%	10V
C326	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C328	1-126-176-11	ELECT	220uF	20%	10V
C330	1-124-903-11	ELECT	1uF	20%	50V
C331	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C332	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C334	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C335	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C338	1-124-907-11	ELECT	10uF	20%	50V
C339	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C340	1-124-903-11	ELECT	1uF	20%	50V
C341	1-126-176-11	ELECT	220uF	20%	10V
C342	1-126-233-11	ELECT	22uF	20%	50V
C343	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C344	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C345	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

< CONNECTOR >

* CN301	1-750-746-11	CONNECTOR, FFC/FPC 14P
* CN302	1-695-017-11	HOUSING, CONNECTOR 7P
CN305	1-750-739-11	CONNECTOR, FFC/FPC 7P
CN306	1-750-745-11	CONNECTOR, FFC/FPC 13P

< DIODE >

D301	8-719-404-46	DIODE MA110
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< IC >

IC301	8-759-249-21	IC uPC1330AGR
IC302	8-759-265-81	IC BA3442KS
IC303	8-752-070-25	IC CXA1552M-T4
IC304	8-759-267-27	IC BU2092F

< JUMPER RESISTOR >

JR301	1-216-295-00	METAL CHIP	0	5%	1/10W
JR302	1-216-295-00	METAL CHIP	0	5%	1/10W

< COIL >

L103	1-410-776-11	INDUCTOR	12mH
L203	1-410-776-11	INDUCTOR	12mH
L301	1-408-426-00	INDUCTOR	270uH

Ref. No.	Part No.	Description	Remark
L302	1-410-993-11	INDUCTOR CHIP 1uH	
< IC LINK >			
△PS301	1-532-685-00	LINK, IC ICP-N20 (0.8A)	
< TRANSISTOR >			
Q301	8-729-105-37	TRANSISTOR 2SC3360-N16	
Q302	8-729-105-37	TRANSISTOR 2SC3360-N16	
Q303	8-729-800-34	TRANSISTOR 2SC3070	
Q304	8-729-101-07	TRANSISTOR 2SB798-DL	
Q305	8-729-424-12	TRANSISTOR UN2112	
Q306	8-729-902-99	TRANSISTOR DTC114TK	
Q307	8-729-424-59	TRANSISTOR UN2212	
Q309	8-729-920-21	TRANSISTOR DTC314TKH04	
Q310	8-729-920-21	TRANSISTOR DTC314TKH04	
Q311	8-729-901-46	TRANSISTOR DTA114YK	
Q312	8-729-424-59	TRANSISTOR UN2212	
Q313	8-729-424-59	TRANSISTOR UN2212	
Q314	8-729-901-46	TRANSISTOR DTA114YK	
Q315	8-729-920-21	TRANSISTOR DTC314TKH04	
Q316	8-729-920-21	TRANSISTOR DTC314TKH04	
Q317	8-729-901-46	TRANSISTOR DTA114YK	
Q318	8-729-901-46	TRANSISTOR DTA114YK	
Q320	8-729-901-46	TRANSISTOR DTA114YK	
Q321	8-729-920-31	TRANSISTOR DTC343TK	
Q322	8-729-900-52	TRANSISTOR DTC114YK	
Q323	8-729-901-46	TRANSISTOR DTA114YK	
Q324	8-729-900-52	TRANSISTOR DTC114YK	
Q325	8-729-801-84	TRANSISTOR 2SB1013-4	
Q326	8-729-902-99	TRANSISTOR DTC114TK	
Q327	8-729-424-59	TRANSISTOR UN2212	
Q328	8-729-424-59	TRANSISTOR UN2212	
Q329	8-729-902-99	TRANSISTOR DTC114TK	
Q330	8-729-424-12	TRANSISTOR UN2112	
Q343	8-729-424-59	TRANSISTOR UN2212	
Q344	8-729-424-59	TRANSISTOR UN2212	
Q604	8-729-900-52	TRANSISTOR DTC114YK	
Q605	8-729-202-56	TRANSISTOR 2SA950-Y	
< RESISTOR >			
R101	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R102	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R103	1-216-029-00	METAL CHIP 150 5% 1/10W	
R104	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R105	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R106	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R107	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R108	1-216-075-00	METAL CHIP 12K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R109	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R110	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R111	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R113	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R114	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R201	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R202	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R203	1-216-029-00	METAL CHIP 150 5% 1/10W	
R204	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R205	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R206	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R207	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R208	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R209	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R210	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R211	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R213	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R214	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R301	1-216-025-00	METAL CHIP 100 5% 1/10W	
R302	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R303	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R304	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R305	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R306	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R307	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R309	1-216-025-00	METAL CHIP 100 5% 1/10W	
R310	1-216-150-00	METAL GLAZE 10 5% 1/8W	
R311	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R312	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R313	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R314	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R315	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R320	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R321	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R322	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R323	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R324	1-216-017-00	METAL CHIP 47 5% 1/10W	
R325	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R329	1-216-134-00	METAL CHIP 2.2 5% 1/8W	
R330	1-216-146-00	METAL GLAZE 6.8 5% 1/8W	
R331	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R332	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R333	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R334	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R341	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R350	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R351	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R354	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R356	1-216-079-00	METAL CHIP 18K 5% 1/10W	

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark			
R358	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R359	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R360	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R362	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R367	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R368	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R369	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R370	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R373	1-216-041-00	METAL CHIP	470	5%	1/10W	
R374	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R375	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R376	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R377	1-216-041-00	METAL CHIP	470	5%	1/10W	
R378	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R379	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R380	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R382	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R383	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R384	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R385	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R386	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R387	1-216-037-00	METAL CHIP	330	5%	1/10W	
R390-392	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R393	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R394	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R395-397	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R398	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R399	1-216-097-00	METAL CHIP	100K	5%	1/10W	
< VARIABLE RESISTOR >						
RV101	1-241-630-11	RES. ADJ. CARBON 10K				
RV102	1-241-765-11	RES. ADJ. CARBON 22K				
RV103	1-238-019-11	RES. ADJ. CARBON 47K				
RV201	1-241-630-11	RES. ADJ. CARBON 10K				
RV202	1-241-765-11	RES. ADJ. CARBON 22K				
RV203	1-238-019-11	RES. ADJ. CARBON 47K				
RV303	1-241-763-11	RES. ADJ. CARBON 4.7K				
RV304	1-241-763-11	RES. ADJ. CARBON 4.7K				
< TRANSFORMER >						
T301	1-433-391-11	TRANSFORMER, BIAS OSCILLATOR				

Ref. No.	Part No.	Description	Remark			
*	A-3269-703-A	TUNER BOARD, COMPLETE (AEP)				
*	A-3269-704-A	TUNER BOARD, COMPLETE (UK)				

< CAPACITOR >						
C1	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C2	1-163-105-00	CERAMIC CHIP	33PF	5%		50V
C3	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C4	1-163-009-11	CERAMIC CHIP	0.001uF	10%		50V
C5	1-163-088-00	CERAMIC CHIP	5PF			50V
C6	1-163-038-00	CERAMIC CHIP	0.1uF			25V
C7	1-163-097-00	CERAMIC CHIP	15PF	5%		50V
C8	1-163-229-11	CERAMIC CHIP	12PF	5%		50V
C9	1-163-009-11	CERAMIC CHIP	0.001uF	10%		50V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%		50V
C11	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C12	1-163-009-11	CERAMIC CHIP	0.001uF	10%		50V
C13	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C14	1-124-907-11	ELECT	10uF	20%		50V
C15	1-124-927-11	ELECT	4.7uF	20%		100V
C16	1-124-903-11	ELECT	1uF	20%		50V
C17	1-124-927-11	ELECT	4.7uF	20%		100V
C18	1-163-022-00	CERAMIC CHIP	0.012uF	10%		50V
C19	1-163-022-00	CERAMIC CHIP	0.012uF	10%		50V
C20	1-164-345-11	CERAMIC CHIP	0.082uF	10%		25V
C21	1-164-345-11	CERAMIC CHIP	0.082uF	10%		25V
C22	1-164-344-11	CERAMIC CHIP	0.068uF	10%		25V
C23	1-163-117-00	CERAMIC CHIP	100PF	5%		50V
C24	1-124-902-00	ELECT	0.47uF	20%		50V
C25	1-163-034-00	CERAMIC CHIP	0.033uF			50V
C26	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C27	1-163-059-00	CERAMIC CHIP	0.01uF	10%		50V
C28	1-124-907-11	ELECT	10uF	20%		50V
C29	1-163-118-00	CERAMIC CHIP	110PF	5%		50V
C30	1-163-009-11	CERAMIC CHIP	0.001uF	10%		50V
C31	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C32	1-164-232-11	CERAMIC CHIP	0.01uF			50V
C33	1-130-483-00	MYLAR	0.01uF	5%		50V
C34	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C35	1-163-131-00	CERAMIC CHIP	390PF	5%		50V
C36	1-163-102-00	CERAMIC CHIP	24PF	5%		50V
C37	1-163-134-00	CERAMIC CHIP	510PF	5%		50V
C38	1-163-035-00	CERAMIC CHIP	0.047uF			50V
C39	1-163-031-11	CERAMIC CHIP	0.01uF			50V
C40	1-124-907-11	ELECT	10uF	20%		50V
C41-44	1-163-117-00	CERAMIC CHIP	100PF	5%		50V
C45	1-163-099-00	CERAMIC CHIP	18PF	5%		50V
C46	1-163-099-00	CERAMIC CHIP	18PF	5%		50V

TUNER

Ref. No.	Part No.	Description	Remark
C47	1-136-177-00	FILM 1uF	5% 50V
C48	1-130-483-00	MYLAR 0.01uF	5% 50V
C49	1-124-443-00	ELECT 100uF	20% 10V
C51	1-124-902-00	ELECT 0.47uF	20% 50V
C52	1-124-902-00	ELECT 0.47uF	20% 50V
C53	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C54	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C55-57	1-163-033-00	CERAMIC CHIP 0.022uF	50V
C59	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C61	1-124-443-00	ELECT 100uF	20% 10V
C62	1-163-033-00	CERAMIC CHIP 0.022uF	50V
C63	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V

< FILTER >

CF1	1-579-185-21	FILTER, CERAMIC
CF2	1-579-185-21	FILTER, CERAMIC
CF3	1-579-764-11	DISCRIMINATOR, CERAMIC
CF4	1-579-762-21	VIBRATOR, CERAMIC

< ENCAPSULATED COMPONENT >

CFT1	1-239-173-11	ENCAPSULATED COMPONENT
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< CONNECTOR >

* CN1	1-563-594-11	CONNECTOR, FLEXIBLE 17P
* CN4	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
* CN12	1-766-825-11	PIN, CONNECTOR (PC BOARD) 4P
* CN13	1-766-825-11	PIN, CONNECTOR (PC BOARD) 4P

< TRIMMER >

CT1	1-141-411-11	CAP, ADJ 20PF
CT2	1-141-411-11	CAP, ADJ 20PF
CT3	1-141-410-11	CAP, ADJ 10PF
CT4	1-141-439-21	CAP, ADJ 40PF
CT5	1-141-410-11	CAP, ADJ 10PF

< DIODE >

D1	8-719-801-78	DIODE 1SS184
D2	8-713-300-57	DIODE 1T33
D3	8-713-300-57	DIODE 1T33
D4	8-719-980-71	DIODE SVC342L-V
D5	8-719-026-23	DIODE MA786
D6	8-719-104-34	DIODE 1S2836

< BPF >

FL1	1-236-711-21	FILTER, BAND PASS
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Ref. No.	Part No.	Description	Remark
		< IC >	
IC1	8-759-039-95	IC TA8176SN	
IC2	8-759-082-01	IC TA2007AN	
IC3	8-759-823-81	IC LC7216M	

< COIL >

L1	1-402-738-11	COIL (RF)	
L2	1-406-484-21	COIL (OSC)	
L4	1-406-483-11	COIL (OSC)	
L5	1-410-977-11	INDUCTOR	100uH
L6-9	1-410-971-11	INDUCTOR	10uH

< TRANSISTOR >

Q1	8-729-920-38	TRANSISTOR	2SC2059K-N
Q2	8-729-119-32	TRANSISTOR	2SK193-E
Q3	8-729-900-52	TRANSISTOR	DTC114YK
Q4	8-729-900-52	TRANSISTOR	DTC114YK
Q5	8-729-900-52	TRANSISTOR	DTC114YK
Q6	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q7	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q8	8-729-920-38	TRANSISTOR	2SC2059K-N
Q9	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q10	8-729-923-73	TRANSISTOR	DTA123YK
Q11	8-729-012-83	TRANSISTOR	2SK679A
Q12	8-729-106-07	TRANSISTOR	2SK514-H
Q13	8-729-424-28	TRANSISTOR	UN2116
Q14	8-729-900-52	TRANSISTOR	DTC114YK
Q17	8-729-900-52	TRANSISTOR	DTC114YK
Q18	8-729-601-58	TRANSISTOR	2SC3053-C
Q19	8-729-900-52	TRANSISTOR	DTC114YK
Q20	8-729-923-73	TRANSISTOR	DTA123YK
Q21	8-729-902-99	TRANSISTOR	DTC114TK
Q22	8-729-902-99	TRANSISTOR	DTC114TK
Q23	8-729-144-85	TRANSISTOR	2SK1133
Q24	8-729-900-52	TRANSISTOR	DTC114YK
Q25	8-729-900-52	TRANSISTOR	DTC114YK

< RESISTOR >

R1	1-216-025-00	METAL CHIP	100	5%	1/10W
R2	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3	1-216-013-00	METAL CHIP	33	5%	1/10W
R4	1-216-089-00	METAL CHIP	47K	5%	1/10W
R5	1-216-077-00	METAL CHIP	15K	5%	1/10W
R6	1-216-077-00	METAL CHIP	15K	5%	1/10W
R7	1-216-089-00	METAL CHIP	47K	5%	1/10W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-027-00	METAL CHIP	120	5%	1/10W
R10	1-216-015-00	METAL CHIP	39	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R11	1-216-049-00	METAL CHIP	1K	5%	1/10W
R12	1-216-089-00	METAL CHIP	47K	5%	1/10W
R13	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R14	1-216-073-00	METAL CHIP	10K	5%	1/10W
R15	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R16	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R17	1-216-073-00	METAL CHIP	10K	5%	1/10W
R18	1-216-029-00	METAL CHIP	150	5%	1/10W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R20	1-216-089-00	METAL CHIP	47K	5%	1/10W
R21	1-216-090-00	METAL CHIP	51K	5%	1/10W
R22	1-216-085-00	METAL CHIP	33K	5%	1/10W
R23	1-216-081-00	METAL CHIP	22K	5%	1/10W
R24	1-216-073-00	METAL CHIP	10K	5%	1/10W
R25	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R26	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R27	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R28	1-216-049-00	METAL CHIP	1K	5%	1/10W
R29	1-216-049-00	METAL CHIP	1K	5%	1/10W
R30	1-216-073-00	METAL CHIP	10K	5%	1/10W
R31	1-216-105-00	METAL CHIP	220K	5%	1/10W
R32	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W
R34	1-216-049-00	METAL CHIP	1K	5%	1/10W
R35	1-216-089-00	METAL CHIP	47K	5%	1/10W
R36-38					
	1-216-073-00	METAL CHIP	10K	5%	1/10W
R39	1-216-049-00	METAL CHIP	1K	5%	1/10W
R40	1-216-089-00	METAL CHIP	47K	5%	1/10W
R41	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R42	1-216-073-00	METAL CHIP	10K	5%	1/10W
R43	1-216-073-00	METAL CHIP	10K	5%	1/10W
R44	1-216-025-00	METAL CHIP	100	5%	1/10W
R45	1-216-049-00	METAL CHIP	1K	5%	1/10W
R46	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R47	1-216-089-00	METAL CHIP	47K	5%	1/10W
R48	1-216-027-00	METAL CHIP	120	5%	1/10W
R49	1-216-033-00	METAL CHIP	220	5%	1/10W
R50	1-216-025-00	METAL CHIP	100	5%	1/10W
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R52	1-216-081-00	METAL CHIP	22K	5%	1/10W
R53	1-216-049-00	METAL CHIP	1K	5%	1/10W
R55	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R56-59					
	1-216-295-00	METAL CHIP	0	5%	1/10W
R60	1-216-101-00	METAL CHIP	150K	5%	1/10W
R61	1-216-025-00	METAL CHIP	100	5%	1/10W
R62	1-216-097-00	METAL CHIP	100K	5%	1/10W
R70	1-216-295-00	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description	Remark
		< TRANSFORMER >	
T1	1-416-015-21	TRANSFORMER, IF	
		< VIBRATOR >	
X1	1-579-574-21	VIBRATOR, CRYSTAL (7.2MHz)	

		MISCELLANEOUS	

A9	1-575-651-11	CORD, POWER (AEP)	
A14	1-696-570-21	CORD, POWER (UK)	
72	1-765-436-11	WIRE, PARALLEL (FFC) (14 CORE)	
73	1-765-437-11	WIRE, PARALLEL (FFC) (7 CORE)	
74	1-765-435-11	WIRE, PARALLEL (FFC) (13 CORE)	
75	1-765-640-11	WIRE, PARALLEL (FFC) (17 CORE)	
76	1-765-434-11	WIRE, PARALLEL (FFC) (17 CORE)	
* 77	1-766-695-11	WIRE, PARALLEL (FFC) (9 CORE)	
104	1-452-493-21	MAGNET	
A127	8-848-127-11	PICK-UP, OPTICAL KSS-210A	
251	1-765-399-11	CORD (SPEAKER)	
AF501	1-532-237-00	FUSE (3.15A)	
AF502	1-532-506-51	FUSE (6.3A) (UK)	
AF502	1-576-264-11	FUSE (6.3A) (AEP)	
HRPE301	1-543-991-11	HEAD, MAGNETIC (REC/PB/ERASE)	
M691	A-3263-138-A	MOTOR ASSY (REEL/CAPSTAN)	
M701	X-2625-132-1	GEAR ASSY, MOTOR (SLED)	
M703	X-2625-117-1	MOTOR ASSY, LOADING	
PM691	1-454-595-11	SOLENOID, PLUNGER	
SP901	1-504-611-11	SPEAKER (10CM) (L-CH)	
SP902	1-504-611-11	SPEAKER (10CM) (R-CH)	
AT501	1-426-872-11	TRANSFORMER, POWER (AEP)	
AT501	1-426-873-11	TRANSFORMER, POWER (UK)	

The components identified by mark A or dotted line with mark A are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
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HARDWARE LIST

#1	7-621-255-15	SCREW +P 2X3	
#2	7-682-548-04	SCREW +BVTT 3X8 (S)	
#3	7-627-553-97	PRECISION SCREW +P 2X8 TYPE 3	
#4	7-685-659-79	SCREW +BVTP 4X8 TYPE2 IT-3	
#5	7-682-902-21	SCREW +PWH 2.6X6	
#6	7-685-134-19	SCREW +P 2.6X8 TYPE2 SLIT	
#7	7-685-245-19	SCREW +KTP 3X6 TYPE2 NON-SLIT	
#8	7-685-647-79	SCREW, TAPPING +BV 3X10	
#9	7-685-648-79	SCREW, TAPPING +BV 3X12	
#10	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S (UK)	

ACCESSORIES & PACKING MATERIALS

	1-467-789-11	COMMANDER, STANDARD (RMT-C301)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-594-11	ANTENNA (FM)	
	3-758-948-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH)	
	3-758-948-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (AEP)	
*	3-917-051-01	INDIVIDUAL CARTON	
*	3-917-735-01	CUSHION (SP)	
*	3-917-736-01	CUSHION (TOP)	
*	3-917-737-01	CUSHION (BOTTOM)	